611-TD-596-001

EOSDIS Core System Project

M&O Procedures: Section 14—Production Processing

Interim Update

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Raytheon Systems Company
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Preface

This document is an interim update to the Mission Operations Procedures Manual for the ECS Project, document number 611-CD-600-001. This document has not been submitted to NASA for approval, and should be considered unofficial.

The document has been updated to add troubleshooting procedures and a procedure for logging in to ECS hosts. In addition, the format of the document has been modified somewhat and minor changes have been made to several procedures.

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14. Production Processing

14.1 Production Processing Process

The Data Processing Subsystem provides a batch processing environment to support the generation of data products. It manages, queues, and executes Data Processing Requests (DPR) on the processing resources at a DAAC. A DPR can be defined as one science processing job. Each DPR encapsulates all of the information needed to execute the processing job. DPRs are submitted from the Planning Subsystem and their processing is triggered by the availability of their input data.

DPRs use Product Generation Executives (PGEs) to perform processing. PGEs result from the integration and test of delivered science algorithms and also user-specific methods in the Data Processing Subsystem. They are encapsulated in the ECS environment through the SDP Toolkit. The Data Processing Subsystem provides the operational interfaces needed to monitor the execution of science software PGEs.

Production Processing requires close monitoring of job processing status/activities and operator intervention as needed to modify job status. In addition it involves monitoring the load on the processing resources to determine whether the load on processing assets is appropriately distributed.

The site M&O Production Monitors use the following principal tools in the Data Processing Subsystem:

- **AutoSys GUI Control Panel** - for launching various AutoSys and AutoXpert GUIs.
- AutoSys GUIs.
  - **Job Activity Console (Ops Console)** – for monitoring job processing status/activities and modifying job status.
  - **Alarm Manager** – for monitoring and responding to AutoSys alarms.
  - **Job Definition** GUI – for determining the ownership of jobs in AutoSys.
  - **Monitors/Browsers** – for monitoring job processing status/activities and obtaining reports on job processing status.
- AutoXpert GUIs.
  - **JobScape** – for a Pert-type graphical view of job processing status/activities and for modifying job status.
  - **TimeScape** – for a Gantt-type graphical view of job processing status/activities and for modifying job status.
  - **HostScape** – for a machine-oriented graphical view of job processing status/activities.

Subsequent sections related to Production Processing address the following topics, including an overview and step-by-step procedures for each topic:

- Section 14.2 Launching the AutoSys/AutoXpert GUIs and configuring AutoSys screens/displays.
- Section 14.3 Reviewing hardware status, DPR dependency, the DPR production timeline, alarms, and job activities using AutoSys/AutoXpert GUIs.
- Section 14.4 Modifying job status.
- Section 14.5 Reviewing activity and job dependency reports, and defining and running monitors/browsers.
- Section 14.6 Changing the database maintenance time.
- Section 14.7 Tuning system parameters.
- Section 14.8 An overview of the process and step-by-step procedures for troubleshooting Production Processing problems.

14.2 Launching the AutoSys/AutoXpert GUIs and Configuring AutoSys Screens/Displays

The AutoSys and AutoXpert GUIs are the principal tools the Production Monitors use for monitoring and controlling activities occurring in Production Processing.

Each procedure outlined will have an **Activity Checklist** table that will provide an overview of the task to be completed. The outline of the **Activity Checklist** is as follows:

Column one - ***Order*** shows the order in which tasks should be accomplished.

Column two - ***Role*** lists the Role/Manager/Operator responsible for performing the task.

Column three - ***Task*** provides a brief explanation of the task.

Column four - ***Section*** provides the *Procedure (P)* section number or *Instruction (I)* section number where details for performing the task can be found.

Column five - ***Complete?*** is used as a checklist to keep track of which task steps have been completed.

Table 14.2-1 provides an Activity Checklist for activities related to Launching the AutoSys/AutoXpert GUIs and Configuring AutoSys Screens/Displays.

Table 14.2-1. Launching the AutoSys/AutoXpert GUIs and Configuring AutoSys Screens/Displays - Activity Checklist (1 of 2)

Order	Role	Task	Section	Complete?
1	Production Monitor	Log in to ECS Hosts	(P) 14.2.1	
2	Production Monitor	Launch the AutoSys GUI Control Panel	(P) 14.2.2	
3	Production Monitor	Configure AutoSys/AutoXpert Runtime Options	(P) 14.2.3	

Table 14.2-1. Launching the AutoSys/AutoXpert GUIs and Configuring AutoSys Screens/Displays - Activity Checklist (2 of 2)

Order	Role	Task	Section	Complete?
4	Production Monitor	Select Jobs to be Displayed on AutoSys/AutoXpert GUIs	(P) 14.2.4	
5	Production Monitor	Set the Current Job on AutoSys/AutoXpert GUIs	(P) 14.2.5	
6	Production Monitor	Configure HostScape Hardware Groups	(P) 14.2.6	

The process of configuring AutoSys begins when the Production Monitor starts the AutoSys graphical user interface (GUI) Control Panel and changes runtime options or uses the vi editor to modify AutoSys configuration files.

The procedures in this section concern launching the AutoSys GUIs, configuring AutoSys run-time options, and configuring AutoSys hardware groups.

14.2.1 Log in to ECS Hosts

Logging in to ECS hosts is accomplished from a UNIX command line prompt. Table 14.2-2 presents (in a condensed format) the steps required to log in to ECS hosts. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the detailed procedures that follow.

1 At the UNIX command line prompt enter:

setenv DISPLAY <client name>:0.0

- Use either the X terminal/workstation IP address or the machine-name for the client name.
- When using secure shell, the DISPLAY variable is set just once, before logging in to remote hosts. If it were to be reset after logging in to a remote host, the security features would be compromised.

2 In the terminal window (at the command line prompt) start the log-in to the appropriate host by entering:

/tools/bin/ssh <host name>

- The **-l** option can be used with the ssh command to allow logging in to the remote host with a different user ID. For example, to log in to x0sps03 as user cmops enter:

  /tools/bin/ssh -l cmops x0sps03

- Depending on the set-up it may or may not be necessary to include the path (i.e., /tools/bin/) with the ssh command. Using ssh alone is often adequate. For example:

  ssh x0sps03

  - or -

  ssh -l cmops x0sps03

- Examples of Science Processor host names include **e0spg01, g0spg01, l0spg01.**
- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03.**
- Examples of PDPS DBMS Server host names include **e0pls02, g0pls02, l0pls01.**
- Examples of Distribution Server host names include **e0dis02**, **g0dis02**, **l0dis02**.
- Examples of SDSRV Server host names include **e0acs05**, **g0acs03**, **l0acs03**.
- Examples of Access/Process Coordinators (APC) Server host names include **e0acg11**, **g0acg01**, **l0acg02**.
- Examples of Ingest Server host names include **e0icg11, g0icg01, l0icg01, n0icg01**.
- Examples of Interface Server 01 host names include **e0ins02, g0ins02, l0ins02**.
- Examples of Interface Server 02 host names include **e0ins01, g0ins01, l0ins01**.
- If you receive the message, "Host key not found from the list of known hosts. Are you sure you want to continue connecting (yes/no)?" enter **yes** ("y" alone will not work).
- If you have previously set up a secure shell passphrase and executed **sshremote**, a prompt to **Enter *passphrase* for RSA key '<*user@localhost*>'** appears; continue with Step 3.
- If you have not previously set up a secure shell passphrase, go to Step 4.

3 If a prompt to **Enter passphrase for RSA key '<*user@localhost*>'** appears, enter:

<passphrase>

4 At the **<*user@remotehost*>'s password:** prompt enter:

<password>

- A command line prompt is displayed.
- Log-in is complete.

Table 14.2-2. Log in to ECS Hosts - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	**setenv DISPLAY <client name>:0.0**	**enter text, press Enter**
2	**/tools/bin/ssh <host name>** (as applicable)	**enter text, press Enter**
3	**<passphrase>** (if applicable)	**enter text, press Enter**
4	**<password>** (if applicable)	**enter text, press Enter**

14.2.2 Launch the AutoSys GUI Control Panel

The AutoSys GUI Control Panel is invoked from a UNIX command line prompt. Table 14.2-3 presents (in a condensed format) the steps required to launch the AutoSys GUI Control Panel. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 In the terminal window, at the command line prompt, enter:

cd /usr/ecs/ <MODE>/COTS/autotree/autouser

- **<MODE>** is current mode of operation.
  - TS1 - Science Software Integration and Test (SSI&T)
  - TS2 - New Version Checkout
  - OPS - Normal Operations
- "autouser" is the directory containing the AutoSys configuration files.
- The path may vary with the specific site installation; e.g., the **autotree** directory may be identified as **autotreeb** at some sites.

3 Set the application environment variables by entering:

setenv ECS_HOME /usr/ecs/
source <AUTOSERV INSTANCE>.autosys.csh.<host name>

- Application home environment is entered.
- When logging in as a system user (e.g., cmshared), the ECS_HOME variable may be set automatically so it may not be necessary to set it manually.
- **<AUTOSERV INSTANCE>** (also called an AUTOSYS instance) is installed as part of the Data Processing Subsystem and is identified by three capital letters.
  - AUTOSERV instances at the DAACs are typically identified as **FMR**.
  - Configuration files in the **autouser** directory identify the available AUTOSERV instances. For example, **config.FMR** is the configuration file for AUTOSERV instance **FMR**.

4 Launch the **AutoSys GUI Control Panel** by entering:

cd /usr/ecs/ <MODE>/CUSTOM/utilities
EcDpPrAutosysStart <MODE> <AUTOSERV INSTANCE>

- The **AutoSys GUI Control Panel** is displayed.

Table 14.2-3. Launch the AutoSys GUI Control Panel - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
2	**cd /usr/ecs/ <MODE>/COTS/autotree/autouser**	**enter text, press Enter**
3	**setenv ECS_HOME /usr/ecs/**	**enter text, press Enter**
4	**source <AUTOSERV INSTANCE>.autosys.csh.<host name>**	**enter text, press Enter**
5	**cd /usr/ecs/<MODE>/CUSTOM/utilities**	**enter text, press Enter**
6	**EcDpPrAutosysStart <MODE> <AUTOSERV INSTANCE>**	**enter text, press Enter**

14.2.3 Configure AutoSys/AutoXpert Runtime Options

The following AutoSys/AutoXpert Runtime Options may be defined by the Production Monitor operator:

- **Refresh Interval** - The Refresh Interval is how often the GUI View Region display is updated.
- **Ping Interval** - The Ping Interval is defined by how often the connectivity is evaluated.
- **Hang Time** - The Hang Time is the length of time jobs continue to be displayed within a machine after they have completed running.
- **Inches/Hour**- Inches/Hour specifies how much information is displayed on the screen. All values are initially set to default values by the AutoSys system.

Table 14.2-4 lists the runtime options available for **HostScape**, **TimeScape**, and **JobScape**. Not all options are available for all GUIs.

HostScape displays jobs on a machine-by-machine basis, indicating which AutoSys server/client machines are up and active, and which jobs are running or have recently run on each machine. This interface is used to monitor hardware status in real-time.

TimeScape presents a Gantt-like view of a job processing from a temporal (or time-related) point-of-view. This interface depicts both “command jobs” and “box jobs.” It also depicts the nesting of jobs within boxes and the duration of time it will take for jobs to complete. This interface is used to monitor job flow in real-time.

JobScape presents a Pert-like view of job processing from a logical (or job dependency) point of view. This interface depicts both “command jobs” and “box jobs.” It also depicts the nesting of jobs within boxes and the dependencies between jobs. This interface can be used to monitor job flow in real-time.

Table 14.2-4. Runtime Options Table

Interface	Refresh Interval	Hangtime	PING	Inches/Hour
HostScape	**X**	**X**	**X**	
TimeScape	**X**			**X**
JobScape	**X**			

Table 14.2-5 presents (in a condensed format) the steps required to configure AutoXpert runtime options. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures (perform only those steps applicable to the interface, as defined in Table 14.2-4.):

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.2.2).

- The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on either **HostScape**, **TimeScape**, or **JobScape** button on the **AutoSys GUI Control Panel**.

- The specified **GUI** is displayed.

3 Display the **Runtime Options** dialogue box by executing the following menu path:

Options → **Edit Runtime Options**

- The **Runtime Options** dialogue box is displayed.

4 **Single-click Refresh Interval (Seconds)** and enter a value between **1** and **99999**.

- Value is entered.
- Default value is **30**
- **Reloading Job Data** window reappears every ## seconds.
- If Freeze Frame feature is enabled, changes will not take place until it is disabled.

5 **Single-click Ping Interval (Seconds)** (if applicable) and enter a value between **1** and **99999.**

- Value is entered.
- Default value is **300**
- 99999 means no **ping** commands are issued.
- If Freeze Frame feature is enabled, changes will not take place until it is disabled.

6 **Single-click Hang Time (Minutes)** (if applicable) and enter a value between **1** and **99999**.

- Value is entered.
- Default value is **1**.
- If Freeze Frame feature is enabled, changes will not take place until it is disabled.

7 **Single-click Inches/Hr (inches)** (if applicable) and enter a value between **1** and ###.

- Value is entered.
- Default value is **2**.
- If Freeze Frame feature is enabled, changes will not take place until is disabled.

8 **Single-click Apply**.
- The Runtime Options are set.

9 **Single-click OK**.
- The dialogue box closes.

Table 14.2-5. Configure AutoSys/AutoXpert Runtime Options - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.2.2
2	Either **HostScape**, **TimeScape**, or **JobScape** button (as applicable)	**single-click**
3	**Options** → **Edit Runtime Options**	**single-click**
4	**Refresh Interval (Seconds)** field	**single-click**
5	**<value>** (between **1** and **99999**)	**enter number**
6	**Ping Interval (Seconds)** field (if applicable)	**single-click**
7	**<value>** (between **1** and **99999**) (if applicable)	**enter number**
8	**Hang Time (Minutes)** field (if applicable)	**single-click**
9	**<value>** (between **1** and **99999**) (if applicable)	**enter number**
10	**Inches/Hr (inches)** field (if applicable)	**single-click**
11	**<value>** (if applicable)	**enter number**
12	**Apply** button	**single-click**
13	**OK** button	**single-click**

14.2.4 Select Jobs to be Displayed on AutoSys/AutoXpert GUIs

This section explains how to select jobs to be displayed on AutoSys/AutoXpert GUIs. The Production Monitor can select jobs on the basis of the following criteria:

- Job Name.
- Job Status.
- Machine.

The following default values apply to the job selection criteria until the Production Monitor modifies them:

- All Jobs.

- All Statuses.
- All Machines.

Table 14.2-6 presents (in a condensed format) the steps required to select jobs to be displayed on AutoSys/AutoXpert GUIs. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.2.2).

- The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on either the **HostScape**, **TimeScape**, or **JobScape** button as applicable.

- The AutoXpert GUI corresponding to the selected button is displayed.

3 Execute the following menu path:

View → Select Jobs to Display

- **Job Selection** dialogue box is displayed.
- **Job selection** has the following default settings:
  - **All Jobs** for **Select by Name**.
  - **All Statuses** for **Select by Status**.
  - **All Machines** for **Select by Machine**.
- If the default settings are the desired settings, proceed to Step 10.

4 If all jobs are to be displayed on the AutoXpert GUI, verify that the **All Jobs** toggle button is selected.

- **Single-click** on the **All Jobs** button to change state from unselected to selected or vice versa.
  - When the **All Jobs** option is selected, the **All Jobs** button color is yellow.
  - Leave the **Box Hierarchies: Show Number of Levels** set at **all**.
- Proceed to Step 7.

5 If selecting a particular job or set of jobs by name, first verify that the **All Jobs** button is **unselected**.

- **Single-click** on the **All Jobs** button to change state from selected to unselected or vice versa.

6 If selecting a particular job or set of jobs by name, in the **Name Matching Patterns** fields enter:

<job name>

- The asterisk (*) wildcard character can be used for entering a partial job name.
  - For example, enter ***OPS*** to select jobs with “OPS” in their name.

7 If jobs are to be displayed on the basis of their status, **single-click** on the appropriate button(s) to select the desired status(es) in the **Select by Status** list.

- Options are: **All Statuses, Starting, Running, Success, Failure, Terminated, Restart, Que Wait, Activated, Inactive, On Hold, On Ice**.
- Any or all buttons can be selected.
- Button turns yellow when selected.

8 If jobs are to be displayed regardless of the machine on which they are running, verify that the **All Machines** toggle button is selected.

- **Single-click** on the **All Machines** button to change state from unselected to selected or vice versa.
  - When the **All Machines** option is selected, the **All Machines** button color is yellow.
- Proceed to Step 10.

9 If jobs are to be displayed on the basis of the machine on which they are running, **single-click** on the name(s) of the desired machine(s) in the **Select by Machine** list.

- To select multiple machines **press and hold** either the **Ctrl** key or the **Shift** key while **single-clicking** on individual machines in the **Select by Machine** list.
- Alternatively, to select multiple machines **press** and **hold** either the **Ctrl** key or the **Shift** key then **single-click** on the first machine and drag the cursor to the name of the last machine to be selected and release the mouse button.
  - Selected machine(s) is (are) highlighted.

10 **Single-click** on the appropriate button from the following selections:

- **OK** - to accept all specified job selection criteria and dismiss the **Job Selection** dialogue box.
  - Original AutoXpert GUI is displayed.
  - Jobs are displayed on the AutoXpert GUI based on the specified selection criteria.
- **Apply** - to accept all specified job selection criteria without dismissing the **Job Selection** dialogue box.
  - Repeat Steps 4 through 10 as necessary to specify additional job selection criteria.
- **Cancel** - to dismiss the **Job Selection** dialogue box without accepting any job selection criteria.
  - Original AutoXpert GUI is displayed

Table 14.2-6. Select Jobs to be Displayed on AutoSys/AutoXpert GUIs - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.2.2
2	Either **HostScape**, **TimeScape**, or **JobScape** button (as applicable)	**single-click**

Table 14.2-6. Select Jobs to be Displayed on AutoSys/AutoXpert GUIs - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
3	**View → Select Jobs to Display**	**single-click**
4	**All Jobs** toggle button (selected or unselected as applicable)	**single-click**
5	**<job name>** (if applicable)	**enter text**
6	**Select by Status** toggle button(s) (if applicable)	**single-click**
7	**All Machines** toggle button (selected or unselected as applicable)	**single-click**
8	**<machine(s)>** (from **Select by Machine** list) (if applicable)	**single-click**
9	**OK** button	**single-click**

14.2.5 Set the Current Job on AutoSys/AutoXpert GUIs

This section explains how to set the "current job" on AutoSys/AutoXpert GUIs. Setting the current job causes the job name to be displayed in the **Current Job Name** field in the Control Region of the AutoXpert GUI. Subsequently clicking on the **Job Console** button on the AutoXpert GUI causes the **Job Activity Console** GUI (also known as the **Ops Console** GUI) to be displayed with information concerning the current job.

Either of the following two methods can be used to set the current job:

- Click on the name of a job displayed on an AutoXpert GUI.
- Set the current job using the AutoXpert GUI pull-down menu.

Table 14.2-7 presents (in a condensed format) the steps required to set the current job on an AutoSys/AutoXpert GUI using the pull-down menu. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.2.2).

- The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on either the **HostScape**, **TimeScape**, or **JobScape** button as applicable.

- The AutoXpert GUI corresponding to the selected button is displayed.

3 Execute the following menu path:

View → Set Current Job

- **Set Current Job** dialogue box is displayed.

4 In the **Filter** field enter:

<job name>

- The asterisk (*) wildcard character can be used for entering a partial job name (e.g., type ***AM1**** to list all jobs with "AM1" in their name).

5 **Single-click** on the **Filter** button.

- All jobs that meet the criteria specified in the **Filter** field are displayed in the **Jobs** field.

6 **Single-click** on the name of the job to be designated the "current job" from the jobs listed in the **Jobs** field.

- The name of the selected job is displayed in the **Selected Job** field of the **Set Current Job** dialogue box.

7 **Single-click** on the appropriate button from the following selections:

- **OK** - to accept the selected job and dismiss the **Set Current Job** dialogue box.
  - Original AutoXpert GUI is displayed.
  - Selected job is displayed in the **Current Job Name** field in the Control Region of the AutoXpert GUI.
- **Apply** - to accept the selected job without dismissing the **Set Current Job** dialogue box.
  - Selected job is displayed in the **Current Job Name** field in the Control Region of the AutoXpert GUI.
- **Cancel** - to dismiss the **Set Current Job** dialogue box without setting a "current job."
  - Original AutoXpert GUI is displayed

Table 14.2-7. Set the Current Job on AutoSys/AutoXpert GUIs - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.2.2
2	Either **HostScape**, **TimeScape**, or **JobScape** button (as applicable)	**single-click**
3	**View** → **Set Current Job**	**single-click**
4	**<job name>**	**enter text**
5	**Filter** button	**single-click**
6	**<job name>** (from **Jobs** list)	**single-click**
7	**OK** button	**single-click**

14.2.6 Configure HostScape Hardware Groups

This section explains how to configure AutoSys hardware groups. The default group is "All Machines." If the Production Monitor needs to monitor specific sets of machines, groups may be defined.

Table 14.2-8 presents (in a condensed format) the steps required to configure AutoSys hardware groups. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- Most other ECS hosts are acceptable for checking connections.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 At the UNIX command line prompt enter:

cd /usr/ecs/ <MODE>/COTS/autotree/autouser

3 Enter:

source <AUTOSYS INSTANCE>.autosys.csh.<hostname>

4 Edit the file called **xpert.groups.<AUTOSERV INSTANCE>** using an appropriate text editor (e.g., vi).

- For example:

  vi xpert.groups.FMR

5 Enter:

groupname: <group name>

6 Enter:

<machine name>

(Repeat Step 6 for each item in the group.)

Repeat Steps 5 and 6 for additional groups.

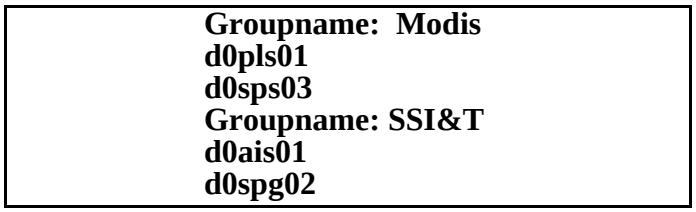

Figure 14.2-1. AutoSys Hardware Group File Example

7 Save the file.

8 Launch the **AutoSys GUI Control Panel** (refer to Section 14.2.2).
- The **AutoSys GUI Control Panel** is displayed.

9 **Single-click HostScape**.
- The **HostScape** GUI page is presented.

10 Display the **Machine Group Selection** dialogue box by executing the following menu path:

View → Select Machine Group
- The **Machine Group Selection** dialogue box is presented.

11 Select <**machine group**>.
- The **machine group** is highlighted.

12 **Single-click Apply** button**.**
- The selected **machine group** is applied.

13 **Single-click OK** button**.**
- The **Machine Group Selection** dialogue box is closed
- The **HostScape** display should now show the selected group of machines**.**

Table 14.2-8. Configure HostScape Hardware Groups - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
2	**cd /usr/ecs/ <MODE>/COTS/autotree/autouser**	**enter text, press Enter**
3	**source <AUTOSYS INSTANCE>.autosys.csh.<hostname>**	**enter text, press Enter**

Table 14.2-8. Configure HostScape Hardware Groups - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
4	**vi xpert.groups.<AUTOSERV INSTANCE>**	**enter text, press Enter**
5	**groupname**: **<groupname>**	**enter text, press Enter**
6	**<machine name >**	**enter text, press Enter**
7	Repeat Steps 5 and 6 as necessary for additional groups/machines	**enter text, press Enter**
8	Save the file	**enter text, press Enter**
9	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.2.2
10	**HostScape** button	**single-click**
11	**View** → **Select Machine Group**	**single-click**
12	**<machine group>** (to be presented) (from menu)	**single-click**
13	**Apply** button	**single-click**
14	**OK** button	**single-click**

14.3 Reviewing Hardware Status, DPR Dependency, the DPR Production Timeline, Alarms, and Job Activities Using AutoSys/AutoXpert GUIs

Hardware status is displayed on the AutoXpert HostScape GUI. The Production Monitor uses the HostScape GUI to determine the status of processors, the condition of the AutoSys queue, whether any processors are overloaded while others are idle, whether there are any system problems, etc.

Table 14.3-1 provides an Activity Checklist for activities related to Reviewing Hardware Status, DPR Dependency, the DPR Production Timeline, Alarms, and Job Activities Using AutoSys/AutoXpert GUIs.

Table 14.3-1. Reviewing Hardware Status, DPR Dependency, the DPR Production Timeline, Alarms, and Job Activities Using AutoSys/AutoXpert GUIs - Activity Checklist (1 of 2)

Order	Role	Task	Section	Complete?
1	Production Monitor	Review Hardware Status Using HostScape	(P) 14.3.1	
2	Production Monitor	Select Hardware Status View Options in HostScape	(P) 14.3.2	
3	Production Monitor	Review DPR Dependencies Using JobScape	(P) 14.3.3	

Table 14.3-1. Reviewing Hardware Status, DPR Dependency, the DPR Production Timeline, Alarms, and Job Activities Using AutoSys/AutoXpert GUIs - Activity Checklist (2 of 2)

Order	Role	Task	Section	Complete?
4	Production Monitor	Change the JobScape View Using the Pull-Down Menu	(P) 14.3.4	
5	Production Monitor	Review the DPR Production Timeline Using TimeScape	(P) 14.3.5	
6	Production Monitor	Review Alarms Using the AutoSys Alarm Manager	(P) 14.3.6	
7	Production Monitor	Select Alarms for Alarm Manager Display	(P) 14.3.7	
8	Production Monitor	Specify Job Selection Criteria for the AutoSys Job Activity Console	(P) 14.3.8	
9	Production Monitor	Review Job Activities Using the AutoSys Job Activity Console	(P) 14.3.9	

14.3.1 Review Hardware Status Using HostScape

Table 14.3-2 presents (in a condensed format) the steps required to review hardware status using AutoXpert HostScape. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.2.2).
- The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **HostScape** button on the **AutoSys GUI Control Panel**.
- The **HostScape** GUI page is presented.
- View presented is **Normal** View.

3 Review the Control Region (left side of display) to identify color code for status of machines. This code is displayed on the machine box border in the **View Region**.
- **MACHINE UP** (active) is Green.
- **MACHINE DOWN** (inactive and cannot be reached) is Red.
- Machine Inactive is Black**.** (Not shown in Control Region)

4 Review machine type in **View Region**.
- The **machine name** is displayed.
- Event Server (database server) name appears below list of jobs, if applicable.
- Event Processor (AutoSys server/daemon)name appears below list of jobs, if applicable.

5 Review machine boxes in the View Region to ascertain status of individual machines.

- The total number of jobs STARTING or RUNNING.
- All jobs in a RUNNING state are listed.

6 Review the **Alarm** indicator/buttons of individual machines in the View Region.
- If an alarm is present, **single-clicking** alarm buttons brings up the **Alarm Manager**.
- Red indicates that an alarm has been generated.
- Gray (default color) indicates normal operation.

7 Review machine connection status in the View Region.
- Solid black line indicates AutoSys can communicate with the client machine Internet daemon.
- Solid red line indicates AutoSys cannot communicate with the client machine Internet daemon; however, the daemon does respond to **ping** commands.
- Dashed red line indicates AutoSys cannot communicate with the client machine; machine is probably turned off.

8 Start the exit from **HostScape** by executing the following menu path:

File → **Exit**

- A **HostScape Exit** dialogue box is displayed.

9 **Single-click** on the appropriate button from the following selections:
- **OK** - to exit from the **HostScape** GUI.
  - The **HostScape** GUI is dismissed.
- **Cancel** - to return to the **HostScape** GUI.

Table 14.3-2. Review Hardware Status Using HostScape - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.2.2
2	**HostScape** button	**single-click**
3	Review Control Region to identify color code for machine status	**observe**
4	Review individual machine data in View Region	**observe**
5	**File** → **Exit** (when applicable)	**single-click**
6	**OK** button (when applicable)	**single-click**

14.3.2 Select Hardware Status View Options in HostScape

The View Options provide three methods to view the hardware status:

- The Normal view (default) displays three rows of machines with job activities.
- The Global view displays seven rows of machines but not job activities.
- The Zoom view displays one machine with great detail: Job name, description, status, and commands.

The Production Monitor may select the Global view to monitor the entire system and in the case of a malfunction, use the Zoom view to focus on the specific problem machine.

Table 14.3-3 presents (in a condensed format) the steps required to change the hardware status view in AutoXpert HostScape. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Select global view by executing the following menu path:

View → Select View Level → Global View

- The **Global** view is displayed.
- No job information is displayed.

2 Select a machine by **single-clicking** on **<machine name>.**

3 Execute the following menu path:

View → Zoom in Machine

- The **Zoom** view is displayed.
- A table of **Job Name**, **Description**, **Status**, and **Commands** is displayed.

4 Observe individual machine data in the table.

5 Select **Dismiss**.

- The **Global** view is displayed.

6 Display the **Normal** view of hardware status by executing the following menu path:

View → Select View Level → Normal view

- The **Normal** view is displayed.
- Limited job information is displayed.

Table 14.3-3. Select Hardware Status View Options in HostScape - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	**View → Select View Level → Global View**	**single-click**
2	**<machine name>**	**single-click**
3	**View → Zoom in Machine**	**single-click**
4	Review individual machine data in table	**observe**
5	**Dismiss** button	**single-click**
6	**View → Select View Level → Normal View**	**single-click**

14.3.3 Review DPR Dependencies Using JobScape

The process of reviewing DPR dependencies begins with the Production Monitor launching AutoXpert **JobScape**. The **JobScape** interface is used to monitor job flow in real-time.

Table 14.3-4 presents (in a condensed format) the steps required to review DPR dependencies in AutoXpert **JobScape**. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.2.2).
- The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **JobScape** button on the **AutoSys GUI Control Panel**.
- The **JobScape** GUI page is presented.

3 Review the Control Region (left side of display) to identify **True** or **False** Dependency Legend.
- **True** (default **solid** arrow) indicates job dependencies have been met.
- **False** (default **dashed** arrow) indicates job dependencies have **not** been met.
  - Dependency arrows indicate that a job dependency exists for a job. They do not define time-related starting conditions, nor do they describe the type of job dependency, such as success, failure, or running.

4 Review the Job Display for status. The following colors represent the default values:
- White indicates job status of **ACTIVATED**.
- Dark Blue indicates job status of **INACTIVE** or **ON_HOLD** or **ON_ICE**.
- Yellow indicates job status of **QUE_WAIT**.
- Orange indicates job status of **RESTART**.
- Green indicates job status of **STARTING** or **RUNNING**.
- Red indicates job status of **FAILURE** or **TERMINATED**.

- Light Blue indicates job status of **SUCCESS**.

5 Review the Job Display for job types:
- **Rectangle** depicts **Box Job**.
- **Ellipse** depicts **Command Job**.
- **Hexagon** depicts **File Watcher Job** (not displayed in ECS implementation of AutoXpert).

6 Select a job by placing the **cursor** on a job and pressing the **left** mouse button.
- Border around selected job changes to **yellow**.
- Job name appears in **Current Job Name** area of the Control Region.

7 Review job descendants by placing the **cursor** on a job and pressing the **right** mouse button.
- Pop-up menu appears with the options **<job name>, Show Children, Show All Descendants, Hide All Descendants. Show Job Arrows, Hide Job Arrows, Show Box Arrows, Hide Box Arrows, Job Definition, View Dependencies, Set Simulation, Overrides** [grayed out], **Start Job, Kill Job, Force Start Job, On Hold, Off Hold, On Ice, Off Ice.**

8 Select **Show Children** on the pop-up menu.
- Job's first level Command and Box Jobs appear.
- Repeat Step 6 to change job selection.

9 Select **Show All Descendants** on the pop-up menu.
- Job's Command and Box Jobs appear for all levels.

10 Select **Hide All Descendants** on the pop-up menu.
- Default view is displayed.
- All dependents are hidden.

11 To change the **JobScape** view using the **View** pull-down menu perform the procedure to **Change the JobScape View Using the Pull-Down Menu** (Section 14.3.4).

12 Start the exit from **JobScape** by executing the following menu path:

File → **Exit**

- A **JobScape Exit** dialogue box is displayed.

13 **Single-click** on the appropriate button from the following selections:
- **OK** - to exit from the **JobScape** GUI.
  - The **JobScape** GUI is dismissed.
- **Cancel** - to return to the **JobScape** GUI.

Table 14.3-4. Review DPR Dependencies Using JobScape - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.2.2
2	**JobScape** button	**single-click**
3	Review Control Region to identify **True** or **False** Dependency Legend and status color code	**observe**
4	Review the job status in View Region	**observe**
5	**<job name>**	**single-click**
6	**<job name>** → **Show Children**	**right-click**
7	Review the job status in View Region	**observe**
8	**<job name>** → **Show All Descendants**	**right-click**
9	Review the job status in View Region	**observe**
10	**<job name>** → **Hide All Descendants**	**right-click**
11	Review the job status in View Region	**observe**
12	Change the **JobScape** view using the pull-down menu if desired	Use procedure in Section 14.3.4
13	**File** → **Exit** (when applicable)	**single-click**
14	**OK** button (when applicable)	**single-click**

14.3.4 Change the JobScape View Using the Pull-Down Menu

This section explains how to change the view on the **JobScape** GUI. Changing the view affects the level of detail displayed for each job shown in the **View Region** of the GUI.

As previously mentioned the view can be changed in some ways by simply clicking with the **right** mouse button on the name of a job displayed on an AutoXpert GUI and selecting the desired option from the pop-up menu. The following options related to changing the view and display levels are displayed on the menu:

- Show Children.
- Show All Descendants.
- Hide All Descendants.
- Show Job Arrows.
- Hide Job Arrows.
- Show Box Arrows.
- Hide Box Arrows.

Another method for changing the view on the **JobScape** GUI involves using the **View** pull-down menu. Many of the same choices plus some additional options can be selected using the pull-down menu.

Table 14.3-5 presents (in a condensed format) the steps required to change the **JobScape** View using the pull-down menu. If you are already familiar with the procedures, you may prefer to

use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 To start selecting a new view execute the following menu path:

View → Set View

- The following menu options are displayed: **Normal Text View, Small Text View, No Text View, Show Arrows, Hide Arrows, View by Id, View by Name** [grayed out].

2 **Single-click** to select the desired option from the pull-down menu.

- **Normal Text View** is the default view.
- **Small Text View** is similar to **Normal Text View** but the text and graphics are smaller.
- No text is displayed in the **No Text View**, which provides a global or big-picture view of the jobs currently in processing without specifically identifying them by name.
- **Show Arrows** displays the lines/arrows between jobs.
  - Is characteristic of the default view.
- **Hide Arrows** removes the lines/arrows between jobs from the display.
- **View by Id** changes the display to provide a sequential reference number for each job rather than showing the job name.
- **View by Name** changes the display to show job names rather than reference numbers.
  - Is characteristic of the default view.
  - Is accessible only when the current display is by **Id** number.

3 To start selecting a new display level execute the following menu path:

View → Set Display Levels

- The following menu options are displayed: **1, 2, 3, 4, 5, All.**

4 **Single-click** to select the desired option from the pull-down menu.

- **All** is the default type of view.
- Selecting **1** provides a display of the box level only.
  - Just the box header is shown.
  - No command jobs are shown.
- If any other selection (i.e., **2**, **3**, **4**, **5**, or **All**) is made (in the ECS implementation), the boxes and command jobs with the boxes are displayed.

Table 14.3-5. Change the JobScape View Using the Pull-Down Menu - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	**View → Set View**	**single-click**
2	**<view>** (from menu)	**single-click**
3	**View → Set Display Levels**	**single-click**
4	**<display level>** (from menu)	**single-click**

14.3.5 Review the DPR Production Timeline Using TimeScape

The process of reviewing the DPR Production Timeline begins with the Production Monitor launching AutoXpert TimeScape. The TimeScape interface is used for monitoring actual versus projected job progress in real time.

Table 14.3-6 presents (in a condensed format) the steps required to review the DPR production timeline in AutoXpert TimeScape. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.2.2).

- The AutoSys GUI Control Panel is displayed.

2 **Single-click** on the **TimeScape** button on the **AutoSys GUI Control Panel**.

- The **TimeScape** GUI page is presented.
- Current time is displayed in red.

3 Review **Actual/Projected** Legend in lower left of the **Control Region** and compare to **View Region**.

- **Projected** is a rectangular (blue filled) graphic, to show average job completion time.
- **Actual** is a striped (white and blue) ribbon, to show how much of the job has completed.
- If stripe is green, job is running.
- If stripe is black, job has completed.

4 Review job descendants by placing the **cursor** on a job and pressing the **right** mouse button.

- Pop-up menu appears.
- An asterisk (*****) indicates that a Box Job's descendants have been hidden.

5 Select **Show Children** on the pop-up menu.
- Job's first level Command and Box Jobs appear.

6 Select **Show All Descendants** on the pop-up menu.
- Job's Command and Box Jobs appear with all levels.

7 Select **Hide All Descendants** on the pop-up menu.
- All descendants are removed.

8 Start the exit from **TimeScape** by executing the following menu path:

File → Exit

- A **TimeScape Exit** dialogue box is displayed.

9 **Single-click** on the appropriate button from the following selections:
- **OK** - to exit from the **TimeScape** GUI.
  - The **TimeScape** GUI is dismissed.
- **Cancel** - to return to the **TimeScape** GUI.

Table 14.3-6. Review the DPR Production Timeline Using TimeScape - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.2.2
2	**TimeScape** button	**single-click**
3	Review Control Region to identify **Actual/Projected** Legend and status color code	**observe**
4	Review the job status in View Region	**observe**
5	**<job name>**	**single-click**
6	**<job name> → Show Children**	**right-click**
7	Review the job status in View Region	**observe**
8	**<job name> → Show All Descendants**	**right-click**
9	Review the job status in View Region	**observe**
10	**<job name> → Hide All Descendants**	**right-click**
11	Review the job status in View Region	**observe**
12	**File → Exit** (when applicable)	**single-click**
13	**OK** button (when applicable)	**single-click**

14.3.6 Review Alarms Using the AutoSys Alarm Manager

The process of reviewing alarms begins with the Production Monitor starting the AutoSys **Alarm Manager**. The **Alarm Manager** allows the Production Monitor to view alarms as they

arrive, provide a response, and change the alarm status. The Alarm Manager is also configurable for the types of alarms that are displayed.

Table 14.3-7 presents (in a condensed format) the steps required to review alarms using the AutoSys Alarm Manager. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.2.2).
- The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **Ops Console** button on the **AutoSys GUI Control Panel**.
- The **Ops Console** GUI is displayed.

3 **Single-click** on the **Alarm** button.
- The **Alarm Manager** GUI page is presented.
- Alarms are displayed in reverse order of occurrence; the most recent alarm appears at the top of the list.

4 Perform the procedure **Select Alarms for Alarm Manager Display** to display a particular selection of alarms on the AutoSys **Alarm Manager** if desired (refer to Section 14.3.7).

5 If desired, verify that the freeze-frame feature of the **Alarm Manager** GUI is activated (**single-click** on the **Freeze Frame** button if necessary).
- The freeze-frame feature prevents the **Alarm Manager** from being updated, disrupting the display.

6 **Single-click** on an alarm in the **Alarm List**.
- Information for **Alarm Type**, **Job Name**, **Time**, **State**, **Comment** is displayed.
- Alarm is displayed in detail in the **Currently Selected Alarm** region of the display.
- Refer to Table 14.3-8 for descriptions of AutoSys alarms.

7 If a response is to be documented, **single-click** in the **Response** edit box.

8 If a response is to be documented, enter:

<text>

- Response is entered.

9 Update **Alarm State** by **single-clicking** on the proper radio button.
- Options are: **Open, Acknowledged, Closed**.
- Alarm State is updated.

10 **Single-click** on the appropriate button from the following selections:

- **OK -** to enter all alarm responses and dismiss the **Alarm Manager** GUI.
  - Job Activity Console (Ops Console) GUI is displayed.
- **Apply** - to enter all alarm responses without dismissing the **Alarm Manager** GUI.
  - Repeat Steps 6 through 10 as necessary to review and update additional alarms.
- **Cancel** - to retum to the **Job Activity Console (Ops Console)** GUI without entering any alarm responses.
  - **Job Activity Console (Ops Console)** GUI is displayed.

11 If the **Alarm Manager** GUI has not been dismissed, information concerning a job for which there is an alarm can be reviewed by performing Steps 12 through 17.

12 Verify that the alarm has been highlighted in the **Currently Selected Alarm** region of the display (**single-click** on the alarm in the **Alarm List** if necessary).

13 **Single-click** on the **Select Job** button.

- **Job Activity Console (Ops Console)** GUI is displayed with information concerning the selected job.

14 Review the information displayed on the AutoSys **Job Activity Console (Ops Console)**.

15 Start the exit from the AutoSys **Job Activity Console (Ops Console)** by **single-clicking** on the **Exit** button.

- **AutoSys JAC Exit** GUI is displayed.

16 **Single-click** on the appropriate button from the following selections:

- **OK -** to dismiss the **Job Activity Console (Ops Console)** GUI.
  - AutoSys **Job Activity Console (Ops Console)** GUI is dismissed.
- **Cancel** - to return to the **Job Activity Console (Ops Console)** GUI.
  - AutoSys **Job Activity Console (Ops Console)** GUI is displayed.

17 Return to Step 10.

Table 14.3-7. Review Alarms Using the AutoSys Alarm Manager - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.2.2
2	**Ops Console** button	**single-click**
3	**Alarm** button	**single-click**
4	Select alarms for Alarm Manager display if desired	Use procedure in Section 14.5.2 if applicable
5	**Freeze Frame** button (if desired)	**single-click**

Table 14.3-7. Review Alarms Using the AutoSys Alarm Manager - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
6	**<alarm>** (from the **Alarm List**)	**single-click**
7	**<text>** (**Response** edit box) (if desired)	**enter text**
8	**Open**, **Acknowledged**, or **Closed** button (if applicable)	**single-click**
9	**Apply** button(if applicable)	**single-click**
10	Repeat Steps 3 through 9 to review/update additional alarms	
11	**<alarm>** (from the **Alarm List**) (if there is an alarm for which the job information is to be reviewed)	**single-click**
12	**Select Job** button	**single-click**
13	Review the information displayed on the **Job Activity Console**	**observe**
14	**Exit** button (when applicable)	**single-click**
15	**OK** button (when applicable)	**single-click**

Table 14.3-8. AutoSys Alarms (1 of 3)

ALARM	CODE*	DESCRIPTION
AUTO_PING		The **autoping** command has found a problem in trying to communicate with the Remote Agent on a client machine.
CHASE	514	The **chase** command has found a problem with a job that is supposedly running. The job and problem are listed.
DATABASE_COMM	516	The Remote Agent had trouble sending an event to the database. The job probably ran successfully. Inspect the Remote Agent Log file to determine what happened.
DB_PROBLEM	523	There is a problem with one of the AutoSys databases. This alarm can trigger a user-specified notification procedure.
DB_ROLLOVER	519	AutoSys has rolled over from Dual Server to Single Server Mode. This alarm can trigger a user-specified notification procedure.
DUPLICATE_EVENT	524	Duplicate events have been received in the Event Server. Typically, this means that two Event Processors are running, although “duplicate events” can also be caused by Event Server configuration errors.
EP_HIGH_AVAIL	522	The Event Processor High Availability system has detected some system or network problems. This alarm can trigger a user-specified notification procedure.
EP_ROLLOVER	520	The Shadow Event Processor is taking over processing. This alarm can trigger a user-specified notification procedure.

Table 14.3-8. AutoSys Alarms (2 of 3)

ALARM	CODE*	DESCRIPTION
EP_SHUTDOWN	521	The Event Processor is shutting down. This may be due to a normal shutdown (SEND_EVENT) or due to an error condition. This alarm can trigger a user-specified notification procedure.
EVENT_HDLR_ERROR	507	The Event Processor had an error while processing an event. The job associated with the event should be inspected to see if manual intervention is required.
EVENT_QUE_ERROR	508	An event could not be marked as processed. This is usually due to a problem with the Event Server.
FORKFAIL	501	The Remote Agent was unable to start the user command because it was unable to get a process slot on the machine. AutoSys automatically attempts a RESTART when this happens.
INSTANCE_UNAVAILABLE	525	When different AutoSys instances communicate with each other, this alarm is generated when a receiving AutoSys instance (i.e., its Event Server) cannot be reached. The Event Server is probably down.
JOBFAILURE	503	A job has failed. Its current status is FAILURE.
JOBNOT_ONICEHOLD	509	To place a job either ON_HOLD or ON_ICE, a JOB_ON_HOLD or JOB_ON_ICE event (as applicable) is sent. There are certain conditions when the job cannot be placed ON_HOLD or ON_ICE (e.g., if it is already running). In such cases the alarm is sent alerting the operator that the job could not be put ON_HOLD or ON_ICE (as applicable).
MAX_RETRYS	505	AutoSys continues attempting to restart a job if there are system problems or if the job is configured for application restarts (**n_retrys**). There is a limit to the number of times it will attempt a restart, as defined in the AutoSys configuration files (using **MaxRestartTrys**). When that limit has been reached, the MAX_RETRYS alarm is sent to alert operators that AutoSys has given up trying to start the job. After the problem has been fixed the job must be started manually.
MAXRUNALARM	510	The job has been running for a time greater than that defined in the Maximum Run Alarm (**max_run_alarm**) field for the job. The job may continue to run; however, a warning alarm is generated.
MINRUNALARM	502	The job has completed running in a time less than that defined in the Minimum Run Alarm (**min_run_alarm**) field for the job.
MISSING_HEARTBEAT	513	A job has not sent a HEARTBEAT within the interval specified for the job. The operator should inspect the job to determine the cause.
RESOURCE	512	A resource needed for the job was not available. The types of resources are: (a) number of process slots and (b) file space. Specific information about the problem is in the comment associated with the alarm. If AutoSys encounters a resource problem, it attempts to restart the job after a suitable delay.

Table 14.3-8. AutoSys Alarms (3 of 3)

ALARM	CODE*	DESCRIPTION
STARTJOBFAIL	506	AutoSys was unable to start the job. This is generally due to communication problems with the remote machine. AutoSys attempts to restart the job.
VERSION_MISMATCH	518	Generated by the Remote Agent when calling the routine (e.g., Event Processor, **chase**, **clean_files**, **autoping**, etc.) has a different version number than the Remote Agent. Inspect the Remote Agent Log file for the exact version mismatch. The proper Remote Agent version should be installed.

*The code number is used for viewing the event in the event table in the AutoSys database.

14.3.7 Select Alarms for Alarm Manager Display

Table 14.3-9 presents (in a condensed format) the steps required to select the types of alarms to be displayed on the AutoSys **Alarm Manager** for controlling which alarms are displayed. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.2.2).
- The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **Ops Console** button on the **AutoSys GUI Control Panel**.
- The **Ops Console** GUI is displayed.

3 **Single-click** on the **Alarm** button.
- The **Alarm Manager** GUI is presented.

4 To display the **Alarm Selection** GUI execute the following menu path:

View → **Select Alarms…**

- **Alarm Selection** GUI is displayed.
- Alarm Selection defaults are…
  - **All Types** for **Select by Type**
  - **Open** and **Acknowledged** for **Select by State**
  - **All Times** for **Select by Time**
- If the default settings are the desired settings, proceed to Step 15.

5 If all types of alarms are to be displayed on the **Alarm Manager** GUI, verify that the **All Types** toggle button is selected in the **Select by Type** area.
- **Single-click** on the **All Types** button to change state from unselected to selected or vice versa.
  - When the **All Types** option is selected, the **All Types** button color is yellow.
- Proceed to Step 7.

6 If selecting a particular type of alarm or set of alarm types, **single-click** on the name(s) of the desired alarm(s) in the **Select by Type** list.

- To select multiple types of alarms **press and hold** either the **Ctrl** key or the **Shift** key while **single-clicking** individual alarms in the **Alarm List**.
- Alternatively, to select multiple types of alarms **press** and **hold** either the **Ctrl** key or the **Shift** key, then **single-click** on the first type of alarm and drag the cursor to the last type of alarm to be selected and release the mouse button.
  - Selected alarm(s) is (are) highlighted.
- Refer to Table 14.3-8 for descriptions of AutoSys alarms.

7 If all alarm states are to be displayed on the **Alarm Manager** GUI, verify that the **All States** toggle button is selected in the **Select by State** area.

- **Single-click** on the **All States** button to change state from unselected to selected or vice versa.
  - When the **All States** option is selected, the **All States** button color is yellow.
- Proceed to Step 9.

8 If selecting a particular alarm state or set of alarm states to be displayed on the **Alarm Manager** GUI, **single-click** on the name(s) of the desired alarm state(s) in the **Select by State** list.

- Options are **Open**, **Acknowledged**, or **Closed**.
- Any or all buttons can be selected.
- Button turns yellow when selected.

9 If alarms at all times are to be displayed on the **Alarm Manager** GUI, verify that the **All Times** toggle button is selected in the **Select by Time** area.

- **Single-click** on the **All Times** button to change state from unselected to selected or vice versa.
  - When the **All Times** option is selected, the **All Times** button color is yellow.
- Proceed to Step 15.

10 If selecting a particular date/time range for alarms to be displayed on the **Alarm Manager** GUI, first verify that the **All Times** toggle button is **unselected**.

- **Single-click** on the **All Times** button to change state from unselected to selected or vice versa.

11 If selecting a particular date/time range for alarms to be displayed on the **Alarm Manager** GUI, in the **From Date** field enter:

<MM/DD/YYYY>

- Press **Tab** to advance to the next field.

12 If selecting a particular date/time range for alarms to be displayed on the **Alarm Manager** GUI, in the **From Time** field enter:

<hh:mm>

- Press **Tab** to advance to the next field.

13 If selecting a particular date/time range for alarms to be displayed on the **Alarm Manager** GUI, in the **To Date field** enter:

<MM/DD/YYYY>

- Press **Tab** to advance to the next field.

14 If selecting a particular date/time range for alarms to be displayed on the **Alarm Manager** GUI, in the **To Time** field enter:

<hh:mm>

15 **Single-click** on the appropriate button from the following selections:

- **OK** - to accept all specified alarm selections and dismiss the **Alarm Selection** GUI.
  - **Alarm Manager** GUI is displayed.
- **Apply** - to accept all specified alarm selections without dismissing the **Alarm Selection** GUI.
  - Repeat Steps 5 through 15 as necessary to specify additional alarm selection criteria.
- **Cancel** - to dismiss the **Alarm Selection** GUI without accepting any alarm selections.
  - **Alarm Manager** GUI is displayed.

16 If an audible signal is desired for alarm notification, execute the following menu path:

Options → **Sound On**

- **Sound On** Toggle button appears yellow when sound function has been activated.

Table 14.3-9. Select Alarms for Alarm Manager Display - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.2.2
2	**Ops Console** button	**single-click**
3	**Alarm** button	**single-click**
4	**View** → **Select Alarms...**.	**single-click**
5	**<alarm type(s)>** (from **Select by Type** list)	**single-click**
6	**<alarm state(s)>** (**Select by State** list)	**single-click**
7	**All Times** button (if desired)	**single-click**
8	**<MM/DD/YYYY>** (**From Date** field) (if applicable)	**enter text, press Tab**

Table 14.3-9. Select Alarms for Alarm Manager Display - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take

Step	What to Enter or Select	Action to Take
9	**<hh:mm>** (**From Time** field) if applicable)	**enter text, press Tab**
10	**<MM/DD/YYYY>** (**To Date** field) (if applicable)	**enter text, press Tab**
11	**<hh:mm>** (**To Time** field) (if applicable)	**enter text, press Tab**
12	**Apply** button	**single-click**
13	**Ok** button	**single-click**
14	**Options** → **Sound On** (if desired)	**single-click**

14.3.8 Specify Job Selection Criteria for the AutoSys Job Activity Console

The process of reviewing Job Activities begins with the Production Monitor launching the **AutoSys GUI Control Panel**. The **Job Activity Console** (**Ops Console**), which is accessible from the control panel, is the primary interface that allows the operator to monitor all jobs that are defined to AutoSys. The **Job Selection** GUI sets the criteria for jobs to be displayed on the **Job Activity Console**.

Table 14.3-10 presents (in a condensed format) the steps required to filter (select) jobs to be displayed on the **Job Activity Console** (**Ops Console**) GUI. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).

- The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **Ops Console** button on the **AutoSys GUI Control Panel**.

- The AutoSys **Job Activity Console** (**Ops Console**) is displayed.
- No job information is displayed on the **Job Activity Console** when it is brought up using the **Ops Console** button on the **AutoSys GUI Control Panel**.

3 To display the **Job Selection** GUI execute the following menu path:

View → **Select Jobs**

- The **Job Selection** view is displayed.
- Job selection has the following default settings:
  - **All Jobs (Job Name)** for **Select by Name**.
  - **All Statuses** for **Select by Status**.
  - **All Machines** for **Select by Machine**.
  - **Unsorted** for **Sort Order**.
- If the default settings are the desired settings, proceed to Step 14.

4 If all jobs are to be displayed on the **Job Activity Console** (**Ops Console**), verify that the **All Jobs** toggle button is selected.

- **Single-click** on the **All Jobs** button to change state from unselected to selected or vice versa.
  - When the **All Jobs** option is selected, the **All Jobs** button color is yellow.
- Proceed to Step 10.

5 If selecting a particular job by job name, verify that the **Job Name** button is selected.

- **Single-click** on the **Job Name** button to change state from selected to unselected or vice versa.

6 If selecting a particular job by job name, in the **Job Name** field enter:

<job name>

- Proceed to Step 10.

7 If selecting a particular box job by name, verify that the **Box Name** button is selected.

- **Single-click** on the **Box Name** button to change state from selected to unselected or vice versa.

8 If selecting a particular box job by name, in the **Box Name** field enter:

<box name>

9 If selecting a particular box job by name, in the **Box Levels** field enter:

<number of box levels>

- Options include any valid positive integer or the word "all."
  - "0" - indicates that only the top-level box specified in the **Box Name** field is to be displayed.
  - "1" - indicates that the specified top-level box and all direct descendant boxes and enclosed jobs are to be displayed.
  - "all" - indicates that all jobs in the box are to be displayed.

10 If jobs are to be displayed on the basis of their status, **single-click** on the appropriate button(s) to select the desired status(es) in the **Select by Status** list.

- Options are **All Statuses, Starting, Running, Success, Failure, Terminated, Restart, Que Wait, Activated, Inactive, On Hold, On Ice.**
- Any or all buttons can be selected.
- Button turns yellow when selected.

11 If jobs are to be displayed regardless of the machine on which they are running, verify that the **All Machines** toggle button is selected.

- **Single-click** on the **All Machines** button to change state from unselected to selected or vice versa.
  - When the **All Machines** option is selected, the **All Machines** button color is yellow.
- Proceed to Step 14.

12 If jobs are to be displayed on the basis of the machine on which they are running, **single-click** on the name(s) of the desired machine(s) in the **Select by Machine** list.

- To select multiple machines **press and hold** either the **Ctrl** key or the **Shift** key while **single-clicking** on individual machines in the **Select by Machine** list.
- Alternatively, to select multiple machines **press** and **hold** either the **Ctrl** key or the **Shift** key then **single-click** on the first machine and drag the cursor to the name of the last machine to be selected and release the mouse button.
  - Selected machine(s) is (are) highlighted.

13 **Single-click** on the desired **Sort Order**.

- Options are **Start Time**, **End Time**, **Job Name**, **Job Status**, **Machine Name**, and **Unsorted**.

14 **Single-click** on the appropriate button from the following selections:

- **OK** - to accept all specified job selection criteria and dismiss the **Job Selection** GUI.
  - **Job Activity Console** (**Ops Console**) is displayed.
- **Apply** - to accept all specified job selection criteria without dismissing the **Job Selection** GUI.
  - Repeat Steps 4 through 14 as necessary to specify additional job selection criteria.
- **Cancel** - to dismiss the **Job Selection** GUI without accepting any job selection criteria.
  - **Job Activity Console** (**Ops Console**) is displayed.

Table 14.3-10. Specify Job Selection Criteria for the AutoSys Job Activity Console - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select Action to Take **1** Launch the **AutoSys GUI Control Panel** Use procedure in Section 14.2.2 **2 Ops Console** button **single-click 3 View** → **Select Jobs single-click 4 All Jobs** toggle button (selected or unselected as applicable) **single-click 5 <job name>** (if applicable)	**enter text**
6	**<box name>** (if applicable)	**enter text**
7	**Select by Status** toggle button(s) (if applicable)	**single-click**

Table 14.3-10. Specify Job Selection Criteria for the AutoSys Job Activity Console - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
8	**All Machines** toggle button (selected or unselected as applicable)	**single-click**
9	**<machine name(s)>** (from **Select by Machine** list) (if applicable)	**single-click**
10	**<sort order>** toggle button (as applicable)	**single-click**
11	**OK** button	**single-click**

14.3.9 Review Job Activities Using the AutoSys Job Activity Console

Table 14.3-11 presents (in a condensed format) the steps required to review job activities using the AutoSys **Job Activity Console**. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Specify job selection criteria for the AutoSys **Job Activity Console** - Refer to Section 14.3.1.

2 Review jobs in the **Job List** region of the **Job Activity Console**.

- **Job Name**, **Description**, **Status**, **Commands**, and **Machine** are displayed in a table.

3 **Single-click** anywhere on a job row to display detailed information.

- Job details are displayed in the **Currently Selected Job** region of the **Job Activity Console**.

4 Review the data in the **Currently Selected Job** region of the display.

- Job name (**Currently Selected Job**), **Description**, **Command**, **Start Time** (and date), **End Time** (and date), **Run Time**, **Status**, **Exit Code**, **Next Start**, **Machine**, **Queue Name**, **Priority**, and **Num. of Tries** are displayed in a table.

5 Review **Starting Conditions**.

- Overall job **Starting Conditions** are displayed.
- Individual (atomic) starting conditions are displayed, including **Atomic Condition, Current State,** and **T/F** (whether the current state evaluates true or false) are displayed.
- **Single-clicking** on a specific starting condition causes the **Currently Selected Job** to be updated to reflect the selected “upstream” dependency.

6 Review the **Job Report** region.

- **Single-click** on the **Summary**, **Event**, and **None** buttons in the **Reports** area to view different reports.
- Selected report button turns yellow.
- **Summary** report shows the result of the last execution of the job including the following types of information: **Job Name, Last Start, Last End, Status, Run**.
- **Event** report lists all events from the last execution of the job including the following types of information: **Status** [Event], **Time, Ntry** [number of tries], **EventState** [e.g., "Processed"], **ProcessTime, Machine**.

7 To change the state of the freeze-frame feature of the **Job Activity Console (Ops Console)** GUI **single-click** on the **Freeze Frame** toggle button.

- The freeze-frame feature prevents the **Job Activity Console (Ops Console)** GUI from being updated, disrupting the display.
- Deactivating the freeze-frame feature allows the display to be updated with new information.
- By default the freeze-frame feature is activated.
- The **Freeze Frame** toggle button is yellow when the freeze-frame feature is activated.

8 Start the exit from the AutoSys **Job Activity Console (Ops Console)** by **single-clicking** on the **Exit** button.

- **AutoSys JAC Exit** GUI is displayed.
- Subsequent procedure sections describe features that are accessible through the **Actions** and **Show** regions of the **Job Activity Console** (refer to Section 14.4).
- Use and configuration of **Alarm** functions were described in previous sections.

9 **Single-click** on the appropriate button from the following selections:

- **OK** - to dismiss the **Job Activity Console (Ops Console)** GUI.
  - AutoSys **Job Activity Console (Ops Console)** GUI is dismissed.
- **Cancel** - to return to the **Job Activity Console (Ops Console)** GUI.
  - AutoSys **Job Activity Console (Ops Console)** GUI is displayed.

Table 14.3-11. Review Job Activities Using the AutoSys Job Activity Console - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Specify job selection criteria for the **Job Activity Console**	Use procedure in Section 14.3.8
2	Review jobs in the **Job List** region	**observe**
3	**<job row>** (for which detailed information is to be displayed)	**single-click**

Table 14.3-11. Review Job Activities Using the AutoSys Job Activity Console - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
4	Review the data in the **Currently Selected Job** region	**observe**
5	Review the data in the **Starting Conditions** region	**observe**
6	Review reports in the **Job Reports** region	**single-click**
7	**Exit** button (when applicable)	**single-click**
8	**OK** button (when applicable)	**single-click**

14.4 Modifying Job Status

At times the Production Monitor may need to modify a particular job in any of the following ways:

- Start the job.
- Kill the job.
- Force the job to start.
- Place the job on hold.
- Take the job off hold.

The Production Monitor has the option of the following three methods for making those types of modifications to a particular job:

- Menu accessed by clicking the **right** mouse button on the relevant job name on either the **JobScape** or **TimeScape** GUI.
- Buttons in the **Actions** region of the **Job Activity Console (Ops Console)**.
- AutoSys **Send Event** GUI.

In AutoSys terms a control action such as starting or killing a job is accomplished by sending an "event" to the job. An event is basically a message. For example, clicking on the **Start Job** button on the AutoSys **Job Activity Console** begins the process by which AutoSys sends a "start" message to the **Currently Selected Job**.

In addition to the previously mentioned modifications to job status, the buttons in the **Actions** region of the **Job Activity Console (Ops Console)** allow the Production Monitor to generate one of the following types of reports:

- Jobs Completed.
- Jobs Waiting.

The menu accessed using the right mouse button on one of the AutoXpert GUIs allows the Production Monitor to initiate either of the following actions (in addition to the previously mentioned modifications to job status):

- Put the job on ice.

- Take the job off ice.

The **Send Event** GUI allows the Production Monitor to initiate a very broad range of actions, including any of the following items:

- Start the job.
- Kill the job.
- Force the job to start.
- Place the job on hold.
- Take the job off hold.
- Change the job's status.
- Change the job's queue priority.
- Put the job on ice.
- Take the job off ice.
- Stop the daemon (stop the Event Processor in an emergency).
- Set a global value.
- Send a signal concerning the job.
- Make a comment (for example, why a job start was forced).

Guidelines for Reporting Unsuccessful Completion of On-Demand Jobs

- Under any of the following circumstances involving an on-demand job notify User Services of the problem in accordance with the applicable local policy:
  - Job is killed.
  - Job terminates and cannot be restarted.
  - A FAILPGE granule is created.
- The DAAC is obliged to send an e-mail message to the requester of an unsuccessful on-demand job to explain why the request cannot be fulfilled.

Guideline for Putting Jobs "On Ice" or "On Hold"

- Ensure that the job to be put either "on hold" or "on ice" is not already in a "starting" or "running" state. (A job that is either "starting" or "running" cannot be put "on hold" or "on ice.")

Guidelines for Force-Starting Jobs

- Force-start command jobs (e.g., preprocessing or postprocessing) only; do not attempt to force-start a box job.
  - The software does not support box job force-starts. (Although it may work fine in some cases, it can cause the PDPS database to get out of sync and prevent the DPR (and possibly other DPRs) from running successfully.)
  - If a box job were force-started, the allocation portion of the preprocessing job would run again. Allocation might choose a different science processor than was chosen the previous time the job ran. Using a different science processor could cause failure of the job.

  - After each job (and often within each job) the state of the DPR is tracked in various tables in the database. Box job force-starts lack the code needed to check the state of the box and perform the cleanup activities necessary for starting over.
- Ensure that the GUI has refreshed and the job to be force-started is not already running before trying to force-start a job. (If a job is already running, it should not be force-started.)
  - If using AutoSys/AutoXpert 3.4.2 or a later version, it should not be possible to force-start jobs that are already running.
- If any command job other than execution fails, force-start the job that failed only. Do not force start any preceding or succeeding jobs in the box.
- If execution fails, it is not safe to restart it unless the post-processing job had been put on hold and the failure was detected before postprocessing started running.
- If execution fails and the failure was not detected before postprocessing started running, the DPR must run to completion as a failed PGE and the DPR must be deleted and recreated.

In any case the Production Monitor may implement certain changes of job status only when the Production Monitor "owns" the job affected by the modification.

Table 14.4-1 provides an Activity Checklist for activities related to Modifying Job Status.

Table 14.4-1. Modifying Job Status - Activity Checklist

Order	Role	Task	Section	Complete?
1	Production Monitor	Determine the Ownership of an AutoSys Job	(P) 14.4.1	
2	Production Monitor	Send an Event to a Job	(P) 14.4.2	
3	Production Monitor	Send an Event to a Job from an AutoXpert GUI	(P) 14.4.2.1	
4	Production Monitor	Send an Event to a Job from the Job Activity Console	(P) 14.4.2.2	
5	Production Monitor	Send an Event to a Job from the Send Event GUI	(P) 14.4.2.3	
6	Production Monitor	Cancel a Sent Event	(P) 14.4.3	
7	Production Monitor	Perform Job Management Functions	(P) 14.4.4	

14.4.1 Determine the Ownership of an AutoSys Job

AutoSys is very much ownership-aware. Only the "owner" of a job has "edit" privileges and can make changes to the status of an owned job.

AutoSys recognizes ownership in terms of two factors:

- User ID.

- Machine where the operator (user) logged in.

For example, cmshared@g0sps06 identifies the operator who logged in as "cmshared" at machine g0sps06. Any operator who logs in as "cmshared" at another machine (e.g., g0pls01) would not be able to change the status of a job "owned" by cmshared@g0sps06. Consequently, to have any real effect on a job first it is necessary to log in as the job's owner and launch the AutoSys GUIs as that owner.

Table 14.4-2 presents (in a condensed format) the steps required to determine the ownership of a job. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).

- The **AutoSys GUI Control Panel** is displayed.

2 Click on the **JobScape** button on the **AutoSys GUI Control Panel**.

- The **JobScape** GUI is displayed.

3 Place the mouse cursor on the relevant job and **single-click** and **hold** the **right** mouse button.

- Pop-up menu appears.
- Options are **Show Children**, **Show All Descendants**, **Hide All Descendants**, **Show Job Arrows**, **Hide Job Arrows**, **Show Box Arrows**, **Hide Box Arrows**, **Job Definition**, **View Dependencies**, **Set Simulation Overrides** [grayed out], **Start Job**, **Kill Job**, **Force Start Job**, **On Hold**, **Off Hold**, **On Ice**, **Off Ice**.

4 Select **Job Definition** from the pop-up menu (release the right mouse button).

- The **Job Definition** GUI is displayed.
- If the current UserID does not "own" (have edit permissions on) the job, a **Job Security MESSAGE** window is displayed.

5 If a **Job Security MESSAGE** window is displayed, **single-click** on the **Ok** button.

- The **Job Security MESSAGE** window is dismissed.

6 Review the entry in the **Owner** field of the **Job Definition** GUI.

- Job owner is identified in the **Owner** field of the **Job Definition** GUI.
- Job name is listed in the **Job Name** field of the **Job Definition** GUI.

NOTE: Jobs should **not** be deleted using the AutoSys **Job Definition** GUI because it does not communicate with the PDPS database.

7 To exit from the **Job Definition** GUI, **single-click** on the **Exit** button.

Table 14.4-2. Determine the Ownership of an AutoSys Job - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.1.1
2	**JobScape** button	**single-click**
3	**<job name>**	**single-click**
4	**<job name> → Job Definition**	**right-click**
5	Review the job owner information in the **Owner** field	**read text**
6	**Exit** button (when applicable)	**single-click**

14.4.2 Send an Event to a Job

As previously mentioned there are three methods for making certain types of modifications (e.g., start or kill) to a particular job:

- Menu accessed by clicking the **right** mouse button on the relevant job name on either the **JobScape** or **TimeScape** GUI.
- Buttons in the **Actions** region of the **Job Activity Console** (**Ops Console**).
- AutoSys **Send Event** GUI.

14.4.2.1 Send an Event to a Job from an AutoXpert GUI

Table 14.4-3 presents (in a condensed format) the steps required to send an event to a job from an AutoXpert GUI. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).

- The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on either the **JobScape** button or the **TimeScape** button (as desired) on the **AutoSys GUI Control Panel**.

- The selected GUI (i.e., **JobScape** or **TimeScape**) is displayed.

3 Place the mouse cursor on the relevant job and **single-click** and **hold** the **right** mouse button.

- Pop-up menu appears.
- Options are **Show Children**, **Show All Descendants**, **Hide All Descendants**, **Show Job Arrows**, **Hide Job Arrows**, **Show Box Arrows**, **Hide Box Arrows**, **Job Definition**, **View Dependencies**, **Set Simulation Overrides** [grayed out], **Start Job**, **Kill Job**, **Force Start Job**, **On Hold**, **Off Hold**, **On Ice**, **Off Ice**.

4 Select the event (e.g., **Force Start Job**, **On Hold**) to be sent to the job from the pop-up menu (release the right mouse button).

- A confirmation dialogue box is displayed.

5 **Single-click** on the appropriate button from the following selections:

- **Yes** - to send the event to the job.
  - The confirmation dialogue box is dismissed.
  - The specified action is taken.
- **No** – to dismiss the confirmation dialogue box without sending the event to the job.

6 Start the exit from **JobScape** or **TimeScape** by executing the following menu path:

File → **Exit**

- **JobScape** [or **TimeScape**] **Exit** GUI is displayed.

7 **Single-click** on the appropriate button from the following selections:

- **OK** - to dismiss the **JobScape** or **TimeScape** GUI.
  - AutoXpert **JobScape** or **TimeScape** GUI is dismissed.
- **Cancel** - to return to the **JobScape** or **TimeScape** GUI.
  - AutoXpert **JobScape** or **TimeScape** GUI is displayed.

Table 14.4-3. Send an Event to a Job from an AutoXpert GUI - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.1.1
2	Either **JobScape** or **TimeScape** button	**single-click**
3	**<job name>** → **<event>**	**right-click**
4	**Yes** button	**single-click**
5	**File** → **Exit** (when applicable)	**single-click**
6	**OK** button (when applicable)	**single-click**

14.4.2.2 Send an Event to a Job from the Job Activity Console

Table 14.4-4 presents (in a condensed format) the steps required to send an event to a job from the **Job Activity Console** (**Ops Console**). If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Specify job selection criteria for the AutoSys **Job Activity Console** - Refer to Section 14.3.8.

2 Verify that the job with the status to be modified is listed in the **Currently Selected Job** field of the **Job Activity Console** (**Ops Console**).

- **Single-click** on the job row in the **Job List** region of the **Job Activity Console** if necessary.
  - Information concerning the selected job is displayed in the **Currently Selected Job** region of the **Job Activity Console**.

3 **Single-click** on the button corresponding to the desired action to be taken with respect to the selected job (if there is a corresponding button in the **Actions** region of the **Job Activity Console**).

- Options are **Start Job**, **Kill Job**, **Force Start Job**, [Put Job] **On Hold**, [Take Job] **Off Hold**, [Display] **Jobs Completed** [Report], [Display] **Jobs Waiting** [Report].
- A confirmation dialogue box is displayed.

4 **Single-click** on the appropriate button from the following selections:

- **Yes** - to send the event to the job.
  - The confirmation dialogue box is dismissed.
  - The specified action is taken.
- **No** – to dismiss the confirmation dialogue box without sending the event to the job.

5 Start the exit from the **Job Activity Console (Ops Console)** GUI by **single-clicking** on the **Exit** button.

- **AutoSys JAC Exit** GUI is displayed.
- Subsequent procedure sections describe features that are accessible through the **Actions** and **Show** regions of the **Job Activity Console** (refer to Section 14.4).
- Use and configuration of **Alarm** functions were described in previous sections.

6 **Single-click** on the appropriate button from the following selections:

- **OK** - to dismiss the **Job Activity Console (Ops Console)** GUI.
  - AutoSys **Job Activity Console (Ops Console)** GUI is dismissed.
- **Cancel** - to return to the **Job Activity Console (Ops Console)** GUI.
  - AutoSys **Job Activity Console (Ops Console)** GUI is displayed.

Table 14.4-4. Send an Event to a Job from the Job Activity Console – Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Specify job selection criteria for the **Job Activity Console**	Use procedure in Section 14.3.8
2	Review jobs in the **Job List** region	**observe**
3	**<job name>** (from **Job List** region)	**single-click**

Table 14.4-4. Send an Event to a Job from the Job Activity Console – Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
4	**<event>** button (i.e., **Start Job**, **Kill Job**, **Force Start Job**, **On Hold**, or **Off Hold**) (as applicable)	**single-click**
5	**Yes** button	**single-click**
6	**Exit** button (when applicable)	**single-click**
7	**OK** button (when applicable)	**single-click**

14.4.2.3 Send an Event to a Job from the Send Event GUI

Table 14.4-5 presents (in a condensed format) the steps required to send an event to a job from the **Send Event** GUI. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Specify job selection criteria for the AutoSys **Job Activity Console**.

- For detailed instructions refer to the procedure to **Specify Job Selection Criteria for the AutoSys Job Activity Console** (Section 14.3.8).

2 In the **Job List** region of the **Job Activity Console single-click** on the job row corresponding to the job with the status to be modified.

- Information concerning the selected job is displayed in the **Currently Selected Job** region of the **Job Activity Console**.

3 **Single-click** on the **Send Event** button in the **Actions** Region of the **Job Activity Console**.

- **Send Event** GUI is displayed.
- **Send Event** defaults are:
  - **Start Job** for **Event Type**.
  - **Now** for **Time**.
  - **Normal** for **Send Priority**.
- If the default settings are the desired settings, proceed to Step 18.

4 Verify that the correct job is listed in the **Job Name** field of the **Send Event** GUI.

- If not, **single-click** on the **Cancel** button and select the correct job (return to Step 2).

5 **Single-click** on the **Event Type** to be sent to the job in AutoSys.

- Options are **Start Job, Job On Hold, Job Off Hold, Comment, Stop Demon, Force Start Job, Job On Ice, Job Off Ice, Kill Job, Change Status, Change Priority, Set Global,** and **Set Signal**.

- Remember that a job with status of either “starting” or “running” cannot be put “on hold” or “on ice.”
- Note that the GUI has an option to **Cancel Previously Sent Event**.

6 To select a future time for sending the event to the job **single-click** on the **Future** button.

- If **Now** (the default value) is desired, proceed to Step 10.
  - Current date and time are default values.

7 In the **Date** field enter:

<MM/DD/YYYY>

8 In the **Time** field enter:

<hh:mm>

9 **Single-click** on either the **A.M.** or **P.M.** button as applicable.

10 If **Comment** was selected as the **Event Type**, in the **Comment** field enter:

<comment>

- **Comment** is a free-form field for entering text to be sent to the specified job.

11 Verify the entry in the **AUTOSERV Instance** field**.**

- If incorrect enter:

  <AUTOSERV Instance>

- **AUTOSERV Instance** field specifies the instance of AutoSys to which the event will be sent. (You can send events to instances of AutoSys other than the one you are running.)
- The current AutoSys instance should be displayed by default in the **AUTOSERV Instance** field.

12 If **Set Global** was selected as the **Event Type**, in the **Global Name** field enter:

<Global Name>

- The **Global Name** and **Global Value** fields are accessible only if **Set Global** was selected in the **Event Type** region.
- The name in the **Global Name** field identifies a variable that is made available to all jobs in AutoSys; consequently, it is a “global” variable.

13 If **Set Global** was selected as the **Event Type**, in the **Global Value** field enter:

<Global Value>

14 If either **Send Signal** or **Kill Job** was selected as the **Event Type**, in the **Signal** field enter:

<number of UNIX signal>

- The **Signal** field is accessible only if **Send Signal** or **Kill Job** was selected in the **Event Type** region.
- Numbers corresponding to UNIX signals are shown in Table 14.4-6.

15 If **Change Status** was selected as the **Event Type**, **single-click** on the **Status** option menu button and select the desired status.

- Options are: **Running, Success, Failure, Terminated, Starting,** and **Inactive**.
- **Status** can be changed only if **Change Status** was selected in the **Event Type** region.

16 If **Change Priority** was selected as the **Event Type**, in the **Queue Priority** field enter:

<Queue Priority>

17 If sending the event to the job is due to an emergency condition, **single-click** on the **High** button in the **Send Priority** area.

- **Send Priority** refers to the priority for sending the selected event to the job (not the job priority).
- Options are **Normal** and **High**.
- **High** priority is reserved for emergencies.

18 **Single-click** on the **Execute** button.

- A confirmation dialogue box is displayed.

19 **Single-click** on the appropriate button from the following selections:

- **Yes** - to send the event to the job.
  - The confirmation dialogue box is dismissed.
  - The selected event is sent to the specified job.
  - **Job Activity Console** is displayed.
  - Once an event has been sent from the **Send Event** dialogue, it may not be possible to cancel or modify it.
- **No** – to dismiss the confirmation dialogue box and return to the **Send Event** GUI without sending the event to the job.

20 Start the exit from the **Job Activity Console (Ops Console)** GUI by **single-clicking** on the **Exit** button.

- **AutoSys JAC Exit** GUI is displayed.
- Subsequent procedure sections describe features that are accessible through the **Actions** and **Show** regions of the **Job Activity Console** (refer to Section 14.4).
- Use and configuration of **Alarm** functions were described in previous sections.

21 **Single-click** on the appropriate button from the following selections:

- **OK** - to dismiss the **Job Activity Console (Ops Console)** GUI.
  - AutoSys **Job Activity Console (Ops Console)** GUI is dismissed.
- **Cancel** - to return to the **Job Activity Console (Ops Console)** GUI.
  - AutoSys **Job Activity Console (Ops Console)** GUI is displayed.

Table 14.4-5. Send an Event to a Job from the Send Event GUI – Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Specify job selection criteria for the **Job Activity Console**	Use procedure in Section 14.3.8
2	Review jobs in the **Job List** region	**observe**
3	**<job name>** (from **Job List** region)	**single-click**
4	**Send Event** button	**single-click**
5	**<event type>** button	**single-click**
6	Verify **<job name>** (**Job Name** field)	**enter text** if necessary
7	Either **Now** or **Future** button	**single-click**
8	**<date>** (if applicable)	**enter text** if applicable
9	**<time>** (if applicable)	**enter text** if applicable
10	Either **A.M.** or **P.M.** button (if applicable)	**enter text** if applicable
11	**<comment>** (in **Comment** field) (if applicable)	**enter text**
12	**<AUTOSERV Instance>** (in **AUTOSERV Instance** field) (if applicable)	**enter text**
13	**<global name>** (in **Global Name** field) (if applicable)	**enter text**
14	**<global value>** (in **Global Value** field) (if applicable)	**enter text**
15	**<number of UNIX signal>** (in **Signal** field) (if applicable)	**enter text**
16	**<status>** (from **Status** option button) (if applicable)	**single-click**
17	**<queue priority>** (in **Queue Priority** field) (if applicable)	**enter number**
18	Either **Normal** or **High** (**Send Priority**) button (if applicable)	**single-click**
19	**Execute** button	**single-click**
20	**yes** button	**single-click**
21	**Exit** button (when applicable)	**single-click**
22	**OK** button (when applicable)	**single-click**

Table 14.4-6. UNIX Signals

NAME	VALUE	DEFAULT	EVENT
HUP	1	Exit	Hangup.
INT	2	Exit	Interrupt.
QUIT	3	Core	Quit.
ILL	4	Core	Illegal Instruction.
TRAP	5	Core	Trace/Breakpoint Trap.
ABRT	6	Core	Abort.
EMT	7	Core	Emulation Trap.
FPE	8	Core	Arithmetic Exception.
KILL	9	Exit	Killed.
BUS	10	Core	Bus Error.
SEGV	11	Core	Segmentation Fault.
SYS	12	Core	Bad System Call.
PIPE	13	Exit	Broken Pipe.
ALRM	14	Exit	Alarm Clock.
TERM	15	Exit	Terminated.
USR1	16	Exit	User Signal 1.
USR2	17	Exit	User Signal 2.
CHLD	18	Ignore	Child Status Changed.
PWR	19	Ignore	Power Fail/Restart.
WINCH	20	Ignore	Window Size Change
URG	21	Ignore	Urgent Socket Condition.
POLL	22	Exit	Pollable Event.
STOP	23	Stop	Stopped (signal).
TSTP	24	Stop	Stopped (user).
CONT	25	Ignore	Continued.
TTIN	26	Stop	Stopped (tty input).
TTOU	27	Stop	Stopped (tty output).
VTALRM	28	Exit	Virtual Timer Expired
PROF	29	Exit	Profiling Timer Expired.
XCPU	30	Core	CPU time limit exceeded.
XFSZ	31	Core	File size limit exceeded.
WAITING	32	Ignore	Concurrency signal reserved by threads library
LWP	33	Ignore	Inter-LWP signal reserved by threads library.
FREEZE	34	Ignore	Check point Freeze
THAW	35	Ignore	Check point Thaw
CANCEL	36	Ignore	Cancellation signal reserved by threads library.
RTMIN	*	Exit	First real time signal
(RTMIN+1)	*	Exit	Second real time signal
(RTMAX-1)	*	Exit	Second-to-last real time signal.

NAME	VALUE	DEFAULT	EVENT
RTMAX	*	Exit	Last real time signal

*The symbols RTMIN through RTMAX are evaluated dynamically in order to permit future configurability.

14.4.3 Cancel a Sent Event

Table 14.4-7 presents (in a condensed format) the steps required to cancel an event that was previously scheduled for *sometime in the future*. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 **Single-click** on the **Send Event** button in the **Actions** Region of the **Job Activity Console**.

- **Send Event** GUI is displayed.

2 **Single-click** on the **Event Type** that was sent to the job and is to be cancelled.

- Options are **Start Job**, **Job On Hold**, **Job Off Hold**, **Comment**, **Stop Demon**, **Force Start Job**, **Job On Ice**, **Job Off Ice**, **Kill Job**, **Change Status**, **Change Priority**, **Set Global**, and **Set Signal**.

3 **Single-click** on the **Cancel Previously Sent Event** radio button.

4 **Verify Job Name**.

- <**Job Name**> appears in the **Job Name** field.
- Enter the proper <**Job Name**> if incorrect.

5 **Single-click** on the **Execute** button.

- A confirmation dialogue box is displayed requesting permission to proceed with canceling the event.

6 Click on the appropriate button from the following selections:

- **yes** - to send the request to cancel the event.
  - The event is cancelled.
  - **Job Activity Console (Ops Console)** GUI is displayed.
- **no** - to dismiss the dialogue box and return to the **Send Event** GUI without sending the request to cancel the event.

Table 14.4-7. Cancel a Sent Event - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	**Send Event** button	**single-click**
2	**<event type>** button	**single-click**
3	**Cancel Previously Sent Event** button	**single-click**
4	Verify **<job name>** (**Job Name** field)	**enter text** if necessary

Step	What to Enter or Select	Action to Take
5	**Execute** button	**single-click**

Table 14.4-7. Cancel a Sent Event - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
6	**yes** button	**single-click**

14.4.4 Perform Job Management Functions

The Job Management Client tool is a set of utility programs intended primarily for use by software developers. However, if necessary, it is possible to gain access to the following Job Management Client functions from AutoSys by clicking on the **Client Tool** button in the **Actions** region of the **Job Activity Console**:

- Create DPR Job.
- Release DPR Job.
- Cancel DPR Job.
- Change DPR ID.
- View Job Management DPR Queue.
- Create Ground Event Job.
- Cancel Ground Event Job.
- Change Max Concurrent Jobs for PGE Limits Table.
- Cancel Max/Min DPRs for Job Class.
- Trigger Release of Unreleased Ready-to-Run DPRs.

Table 14.4-8 presents (in a condensed format) the steps required to perform job management functions using the AutoSys **Job Activity Console**. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Verify that the job with the status to be modified is listed in the **Currently Selected Job** field of the **Job Activity Console** (**Ops Console**).

- **Single-click** on the job row in the **Job List** region of the **Job Activity Console** if necessary.
  - Information concerning the selected job is displayed in the **Currently Selected Job** region of the **Job Activity Console**.

2 **Single-click** on the **Client Tool** button in the **Actions** Region of the **Job Activity Console**.

- A confirmation dialogue box is displayed.

3 **Single-click** on the **yes** button.

- The dialogue box closes.
- The **Jobs Activation User Interface** window is displayed.

- The following menu options are displayed:

  0) Exit
  1) Create Dpr Job
  2) Release Dpr Job
  3) Cancel Dpr Job
  4) Change Dpr Id
  5) View Job Management Dpr Queue
  6) Create Ground Event Job
  7) Cancel Ground Event Job
  8) Change Max Concurrent Jobs for PGE Limits table
  9) Cancel Max/Min Dprs for Job Class
  a) Trigger release of unreleased ready-to-run Dprs

4 At the **enter an option** prompt enter:

<number>

- The number corresponds to the desired function in the menu being displayed.

5 At the Job Management Client prompt enter:

<response>

- Enter an appropriate response to the prompt.

6 Repeat Steps 4 and 5 as necessary.

7 To quit the Job Management Client at the **enter an option** prompt enter:

0

Table 14.4-8. Perform Job Management Functions - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Verify **<job name>** (**Currently Selected Job** field)	**single-click** if necessary
2	**Client Tool** button	**single-click**
3	**yes** button	**single-click**
4	**<number>** (of the desired function) (at the **enter an option** prompt)	**enter number, press Enter**
5	**<response>** (to Job Management Client prompt)	**enter text, press Enter**
6	Repeat Steps 4 and 5 as necessary	
7	**0** (at the **enter an option** prompt) (when applicable)	**enter text, press Enter**

14.5 Reviewing Activity and Job Dependency Reports, and Defining and Running Monitors/Browsers

The following two types of useful reports can be generated using AutoSys commands:

- Activity Report.
- Job Dependency Report.

The AutoSys Activity Report provides the results of the execution of jobs as monitored by AutoSys. It is similar to the Summary Report that is accessible by clicking on the **Summary** button in the **Reports** region of the **Job Activity Console** (**Ops Console**) GUI.

The AutoSys Job Dependency Report reports information about the dependencies and conditions of jobs. It is accessible by clicking on the **Dependent Jobs** button in the **Show** region of the **Job Activity Console** (**Ops Console**) GUI as well as through the use of an AutoSys command.

Table 14.5-1 provides an Activity Checklist for activities related to Reviewing Activity and Job Dependency Reports, and Defining and Running Monitors/Browsers.

Table 14.5-1. Reviewing Activity and Job Dependency Reports, and Defining and Running Monitors/Browsers - Activity Checklist

Order	Role	Task	Section	Complete?
1	Production Monitor	Review a Job Activity Report	(P) 14.5.1	
2	Production Monitor	Review a Job Dependency Report	(P) 14.5.2	
3	Production Monitor	Define Monitors/Browsers	(P) 14.5.3	
4	Production Monitor	Run Monitor/Browser from the Monitor/Browser GUI	(P) 14.5.4	
5	Production Monitor	Run Monitor/Browser from the Command Shell	(P) 14.5.5	

14.5.1 Review a Job Activity Report

The process of reviewing an Activity Report begins with the Production Monitor running the AutoSys **autorep** command. The **autorep** command reports information about a job, jobs within boxes, machines, and machine status.

Table 14.5-2 presents (in a condensed format) the steps required to display and review the Activity Report using the AutoSys **autorep** command. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- Most other ECS hosts are acceptable for checking connections.

- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 If the AutoSys .csh file has not already been sourced, in the terminal window, at the command line prompt, enter:

cd /<path>

- Change directory to the directory (e.g., /usr/ecs/<MODE>/COTS/autotreeb/autouser, /usr/ecs/<MODE>/COTS/autotree/autouser, /data1/SHARED/COTS/autotree/autouser) containing the set-up files (e.g., FMR.autosys.csh.x0sps02).
- The particular path to be typed may vary from site to site.

3 If the AutoSys .csh file has not already been sourced, in the terminal window, at the command line prompt, enter:

source <AUTOSYS INSTANCE>.autosys.csh.<host name>

- An **AUTOSYS INSTANCE** (also called an AUTOSERV instance) is installed as part of the Data Processing Subsystem and is identified by three capital letters.
  - AutoSys instances at the DAACs are typically identified as **FMR**.
- It is possible that multiple AutoSys instances could be installed at a DAAC.

4 At the UNIX command line prompt enter:

autorep -J ALL

- Activity Report is displayed on the UNIX standard output.
- Enter **<job name>** in place of **ALL** for a specific job.
- Enter **-M <machine name>** for a Machine Report.
- Enter **-s** for a summary report.
- Enter **-d** for a Detailed Report.
- Enter **-q** for a Query Report.

5 Add **| lp** to the preceding command line to print the document or add **> /<path>/<file name>** to save the report in a file.

- Activity Report is printed or saved in a file as applicable.

6 Review the Activity Report to determine job states.

- Completed.
- Currently running.
- In the AutoSys queue.

Table 14.5-2. Review a Job Activity Report - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server host))	**single-click** or use procedure in Section 14.2.1
2	**cd /<path>** (to the directory containing the AutoSys set-up files) (if applicable)	**enter text, press Enter**
3	**source <AUTOSYS INSTANCE>.autosys.csh.<host name>** (if applicable)	**enter text, press Enter**
4	**autorep -J ALL**	**enter text, press Enter**
5	Review the Activity Report to determine job states	**read text**

14.5.2 Review a Job Dependency Report

The process of reviewing a Job Dependency Report begins with the Production Monitor running the AutoSys **job_depends** command. The **job_depends** command reports information about the dependencies and conditions of a job. The command can be used to determine the current state of a job, its job dependencies, the dependencies and nested hierarchies (for boxes) as specified in the job definition, and a forecast of what jobs will run during a given period of time.

Table 14.5-3 presents (in a condensed format) the steps required to display and review the Job Dependency Report using the AutoSys **job_depends** command. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- Most other ECS hosts are acceptable for checking connections.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 If the AutoSys .csh file has not already been sourced, in the terminal window, at the command line prompt, enter:

cd /<path>

- Change directory to the directory (e.g., /usr/ecs/<MODE>/COTS/autotreeb/autouser, /usr/ecs/<MODE>/COTS/autotree/autouser, /data1/SHARED/COTS/autotree/autouser) containing the set-up files (e.g., FMR.autosys.csh.x0sps02).
- The particular path to be typed may vary from site to site.

3 If the AutoSys .csh file has not already been sourced, in the terminal window, at the command line prompt, enter:

source <AUTOSYS INSTANCE>.autosys.csh.<host name>

- An **AUTOSYS INSTANCE** (also called an AUTOSERV instance) is installed as part of the Data Processing Subsystem and is identified by three capital letters.
  - AutoSys instances at the DAACs are typically identified as **FMR**.
- It is possible that multiple AutoSys instances could be installed at a DAAC.

4 At the UNIX command line prompt enter:

job_depends -c -J <job name>

- Job Dependency report is displayed.
- Enter **-c** for current condition status.
- Enter **-d** for dependencies only.
- Enter **-t** for time dependencies.
- Enter **-J <job name>** to indicate a specific job as the subject of the report. Use **ALL** for all jobs.

5 Add **| lp** to the preceding command line to print the document or add **> /<path>/<file name>** to save the report in a file.

- Job Dependency report is printed or saved in a file as applicable.

6 Review the Job Dependency Report to determine job dependencies.

Table 14.5-3. Review a Job Dependency Report - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server host))	**single-click** or use procedure in Section 14.2.1
2	**cd /<path>** (to the directory containing the AutoSys set-up files) (if applicable)	**enter text, press Enter**
3	**source <AUTOSYS INSTANCE>.autosys.csh.<host name>** (if applicable)	**enter text, press Enter**
4	**job_depends -c -J <job name>**	**enter text, press Enter**
5	Review the Job Dependency Report to determine job dependencies	**read text**

14.5.3 Define Monitors/Browsers

The current edition of the *Release 6A Operations Tools Manual for the ECS Project (*609-CD-600-001) indicates that ECS does not support the AutoSys monitor/browser

capabilities. However, they are functional and the Production Monitor can use them (with no expectation of ECS support if problems are encountered).

Although some Production Monitors may wish to monitor all events, it is more likely that they will prefer to limit monitoring to alarms and changes of job status (e.g., from "running" to "success" or "failure"). The browser function is particularly useful for determining the eventual status of jobs run during the preceding shift or day; for example, which jobs were successful, which jobs failed, and which jobs are still running.

Table 14.5-4 presents (in a condensed format) the steps required to define a monitor or browser. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).

- The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **Monitor/Browser** button on the **AutoSys GUI Control Panel**.

- The **Monitor/Browser** GUI is displayed.
- Monitor/Browser defaults are:
  - **Monitor** for **Mode**.
  - **ALL EVENTS** for **Types of Events**.
  - **ALL Jobs** for **Job Selection Criteria**.

3 In the **Name** field enter:

<name>

4 Verify that the appropriate **Mode** button is selected.

- The selected button is yellow.
- If necessary, **single-click** on the appropriate **Mode** button.
- Options are **Monitor** and **Browser**.
  - If **Monitor** is selected, settings are defined for a monitor.
  - If **Browser** is selected, settings are defined for a report.

5 To select "all events" for the types of events (in the **Monitor/Browse these Types of Events** area) verify that the **ALL EVENTS** toggle button has been selected.

- If necessary, **single-click** on the **ALL EVENTS** toggle button.
- The button is yellow when it has been selected.

--- OR ---

To select **Alarms** and/or **All Job CHANGE-STATUS Events** and/or the available individual **Job Status Event**(s) **single-click** on the appropriate button(s).

- **Job CHANGE_STATUS Event** options are **Running, Success, Failure, Terminated, Starting, ReStart**.

- The button(s) is/are yellow when selected.

6 **Single-click** on the appropriate button to select the desired **Job Selection Criteria**.
- Options are **All Jobs**, **Box with its Jobs**, or **Single Job**.
- The selected button is yellow.

7 If **Single Job** is specified for **Job Selection Criteria**, in the **Job Name** field enter:
<job name>

8 If a monitor is being defined, verify that the desired **Monitor Options** are selected.
- If necessary, **single-click** on the appropriate toggle button(s).
  - Options are Sound and Verification Required for Alarms.
  - The button(s) is/are yellow when selected.

9 If a browser is being defined, verify that the desired **Browser Time Criteria** are selected.
- If necessary, **single-click** on the appropriate button to specify whether the report should concern the **Current Run Only**.
  - Options are **Yes** and **No**.
  - The selected button is yellow.

10 If **No** was selected for **Current Run Only**, in the **Events After Date/Time** field enter:
<MM/DD/YYYY hh:mm>

11 **Single-click** on the **Save** button.
- Monitor/browser definition is saved to the database.
- You must **Save** the configuration first before monitor/browser can be viewed.

12 To run the monitor/browser that has just been defined **single-click** on the **Run MonBro** button.
- Monitor/browser is displayed in a separate window.

13 Review the monitor/browser results.

14 To exit from a browser or monitor, in the monitor/browser window enter:
Ctrl-C
- Monitor/browser window is dismissed.

15 To exit from the **Monitor/Browser** GUI **single-click** on the **Exit** button
- The **Monitor/Browser** GUI is dismissed.

Table 14.5-4. Define Monitors/Browsers - Quick-Step Procedures

Step	What to Enter or Select	Action to Take

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.1.1
2	**Monitor/Browser** button	**single-click**
3	**<name>** (of monitor or browser) (in **Name** field)	**enter text**
4	Either **Monitor** or **Browser** button (as applicable)	**single-click**
5	**<event>** button(s) (in **Monitor/Browse these Types of Events** area)	**single-click**
6	**<job selection criteria>** button (**Job Selection Criteria** area)	**single-click**
7	**<job name>** (in **Job Name** field) (if applicable)	**enter text**
8	**Sound** and/or **Verification Required for Alarms** button(s) (as applicable)	**single-click**
9	**Yes** or **No** button (in **Browser Time Criteria** area) (as applicable)	**single-click**
10	**<MM/DD/YYYY hh:mm>** (in **Events After Date/Time** field) (if applicable)	**enter text**
11	**Save** button	**single-click**
12	**Run MonBro** button	**single-click**
13	Review the monitor/browser results	**read text**
14	**Ctrl-C** (in the monitor/browser window) (when applicable)	**enter text**
15	**Exit** button (when applicable)	**single-click**

14.5.4 Run Monitor/Browser from the Monitor/Browser GUI

Table 14.5-5 presents (in a condensed format) the steps required to run a previously defined monitor or browser using the **Monitor/Browser** GUI. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).

- The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **Monitor/Browser** button on the **AutoSys GUI Control Panel**.

- The **Monitor/Browser** GUI page is displayed.

3 If the name of the monitor/browser is known, in the **Name** field enter:

<name>

- Proceed to Step 7.

4 If the name of the monitor/browser is **not** known, in the **Name** field enter:

%

- The percent sign is used as a wild card.

5 **Single-click** on the **Search** button.

- A dialogue box containing a list of previously defined monitors/browsers is displayed.

6 **Double-click** on the name of the monitor/browser in the list displayed in the dialogue box to retrieve the desired monitor/browser.

7 **Single-click** on the **Run MonBro** button.

- Monitor/browser is displayed in a separate window.

8 Review the monitor/browser results.

9 To exit from the **Monitor/Browser** GUI **single-click** on the **Exit** button

- The **Monitor/Browser** GUI is dismissed.

10 To exit from a browser or monitor, in the monitor/browser window enter:

Ctrl-C

- Monitor/browser window is dismissed.

Table 14.5-5. Run Monitor/Browser from the Monitor/Browser GUI - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.1.1
2	**Monitor/Browser** button	**single-click**
3	**<name>** (of monitor or browser) (in **Name** field)	**enter text**
4	**Run MonBro** button	**single-click**
5	Review the monitor/browser results	**read text**
6	**Exit** button (when applicable)	**single-click**
7	**Ctrl-C** (in the monitor/browser window) (when applicable)	**enter text**

14.5.5 Run Monitor/Browser from the Command Shell

Table 14.5-6 presents (in a condensed format) the steps required to run a previously defined monitor or browser from the command shell. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 At the UNIX command line prompt enter:

setenv DISPLAY <client name>:0.0

- Use either the X terminal/workstation IP address or the machine-name for the client name.
- When using secure shell, the DISPLAY variable is set just once, before logging in to remote hosts. If it were to be reset after logging in to a remote host, the security features would be compromised.

2 In the terminal window, at the command line prompt, start the log-in to the Queuing Server by entering:

/tools/bin/ssh <host name>

- Examples of host names include **e0sps04**, **g0sps06**, **l0sps03**.
- If you receive the message, "Host key not found from the list of known hosts. Are you sure you want to continue connecting (yes/no)?" enter **yes** ("y" alone will not work).
- If you have previously set up a secure shell passphrase and executed **sshremote**, a prompt to **Enter passphrase for RSA key '<*user@localhost*>'** appears; continue with Step 3.
- If you have not previously set up a secure shell passphrase, go to Step 4.

3 If a prompt to **Enter passphrase for RSA key '<*user@localhost*>'** appears, enter:

<passphrase>

- Go to Step 5.

4 At the **<*user@remotehost*>'s password:** prompt enter:

<password>

5 In the terminal window, at the command line prompt, enter:

cd /usr/ecs/<MODE>/COTS/autosys/bin

- **<MODE>** is current mode of operation.
  - TS1 - Science Software Integration and Test (SSI&T)
  - TS2 - New Version Checkout
  - OPS - Normal Operations
- The path may vary with the specific site installation.
- The command shell prompt is displayed.

6 At the UNIX command line prompt enter:

monbro -N <name> &

- Refer to the AutoSys Manual for all options and displays for **monbro** reports.
- The monitor/browser must have been previously defined using the **Monitor/Browser** GUI.

7 Review the monitor/browser results.

8 Enter **Ctrl-C** to exit from a browser or monitor.

Table 14.5-6. Run Monitor/Browser from the Command Shell - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Log in to the ECS System using secure shell	**enter text, press Enter**
2	**cd /usr/ecs/<MODE>/COTS/autosys/bin**	**enter text, press Enter**
3	**monbro -N <name> &**	**enter text, press Enter**
4	Review the monitor/browser results	**read text**
5	**Ctrl-C** (in the monitor/browser window) (when applicable)	**enter text**

14.6 Changing the Database Maintenance Time

Once a day, the Event Processor (also known as the AutoSys daemon) goes into an internal database maintenance cycle. During this time, the Event Processor does not process any events and waits for completion of the maintenance activities before resuming normal operations. The time of day that this maintenance cycle starts up is pre-set to 3:30 PM. If necessary to change the time at which it runs, it should be reset to a time of minimal activity. The time required for the database maintenance cycle is approximately one minute.

Table 14.6-1 provides an Activity Checklist for activities related to Changing the Database Maintenance Time.

Table 14.6-1. Changing the Database Maintenance Time - Activity Checklist

Order	Role	Task	Section	Complete?
1	Production Monitor Database Administrator	Change AutoSys Event Processor Database Maintenance Time	(P) 14.6.1	

14.6.1 Change AutoSys Event Processor Database Maintenance Time

Table 14.6-2 presents (in a condensed format) the steps required to modify the AutoSys Event Processor database maintenance time. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- Most other ECS hosts are acceptable for checking connections.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 In the terminal window, at the command line prompt, enter:

cd /usr/ecs/ <MODE>/COTS/autotree/autouser

- **<MODE>** is current mode of operation.
  - TS1 - Science Software Integration and Test (SSI&T)
  - TS2 - New Version Checkout
  - OPS - Normal Operations
- "autouser" is the directory containing the AutoSys configuration files.
- The path may vary with the specific site installation; e.g., the **autotree** directory may be identified as **autotreeb** at some sites.

3 At the UNIX command line prompt enter:

vi config.<AUTOSYS INSTANCE>

- The configuration file is displayed by the vi text editor.
- Although this procedure has been written for the vi command, any UNIX editor can be used to edit the configuration file.

4 Using vi editor commands find **DBMaintTime = <hh:mm>**.

- **<hh:mm>** refers to the current database maintenance time.

5 Using vi editor commands replace the current database maintenance time with the desired time.

- The time may already have been changed to some value other than 03:30 (e.g., **DBMaintTime=04:00**).
- The following vi editor commands are useful:
  - **h** (move cursor left).
  - **j** (move cursor down).
  - **k** (move cursor up).
  - **l** (move cursor right).
  - **a** (append text).
  - **i** (insert text).

- **x** (delete a character).
- **u** (undo previous change).
- **Esc** (switch to command mode).

6 Press the **Esc** key.

7 To save the configuration file enter:

ZZ

- New database maintenance time is entered and saved in the configuration file.
- UNIX prompt is displayed.

Table 14.6-2. Change AutoSys Event Processor Database Maintenance Time - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server host))	**single-click** or use procedure in Section 14.2.1
2	**cd /usr/ecs/<MODE>/COTS/<autotree>/autouser**	**enter text, press Enter**
3	**vi config.<AUTOSERV INSTANCE>**	**enter text, press Enter**
4	Use vi editor commands to find **DBMaintTime = <hh:mm>**	**enter text**
5	Use vi editor commands to replace **<hh:mm>**	**enter text**
6	**Esc** key	**enter text**
7	**ZZ**	**enter text, press Enter**

14.7 Tuning System Parameters

The values assigned to system parameters affect the functioning and performance of the system. When certain parameters are modified, the system operates differently. Changes to some other parameters may not appear to affect the system although there may in fact be subtle effects. In any case before system parameters are modified it is essential to understand what will happen to system functioning and performance.

Many system parameters may be subject to control by Configuration Management (CM). When making or requesting a change to system parameters, the CM process at the particular site must be followed (if applicable).

Values are assigned to Data Processing Subsystem and Planning Subsystem parameters in the following databases:

- PDPS database.
- Configuration Registry database.

The Configuration Registry Server provides a single interface (via a Sybase server) for retrieving configuration attribute-value pairs for ECS servers from the Configuration Registry database. When ECS servers are started, they access the Configuration Registry Database to obtain needed configuration parameters.

The Database Administrator has access to a Configuration Registry GUI for viewing and editing configuration data in the database. Therefore, it is necessary to coordinate with the Database Administrator when changes to configuration parameters are needed. Also, as previously mentioned, changes to configuration-controlled parameters are subject to approval through the site CM process.

Default and adjusted values assigned to system parameters vary from site to site. For guidance concerning the assignment of values to parameters included in the Configuration Registry refer to document 910-TDA-022, Custom Configuration Parameters. The document is available at http://cmdm.east.hitc.com/baseline/ under "Technical Documents."

The following parameters are examples of parameters whose values may be modified to enhance system functioning or performance:

- AppLogSize [parameter applies to all servers].
  - Maximum size of the application log (ALOG) file for a particular application.
  - Recommended size varies considerably depending the nature of the application for which the file is being written.
- AppLogLevel [parameter applies to all servers].
  - Level of detail provided in the ALOG file for a particular application.
  - Acceptable values are 0, 1, 2, or 3.
  - A setting of "0" provides the most data.
- DebugLevel [parameter applies to all servers].
  - Level of detail provided in the debug log file for a particular application.
  - Normally acceptable values are 0, 1, 2, or 3.
  - A setting of "0" turns off logging; a setting of "3" provides a significant amount of data.
- DpPr_MAX_RETRIES [EcDpPrEM and EcDpPrDeletion parameter (also EcDpPrQaMonitorGUI and several Science Software Integration and Test programs)].
  - Number of retries (e.g., 30) to the Science Data Server for acquires/inserts before giving up.
- DpPr_WAIT_PERIOD [EcDpPrEM and EcDpPrDeletion parameter (also EcDpPrQaMonitorGUI and several Science Software Integration and Test programs)].
  - Time in seconds (e.g., 120) to wait between retries to the Science Data Server.

- DpPrRM_MAX_RETRIES [EcDpPrEM, EcDpPrGE, EcDpPrJobMgmt, EcDpPrDeletion parameter].
  - Maximum number (e.g, 100) of attempts to allocate a computer resource.
- DpPrRM_RETRY_PERIOD [EcDpPrEM, EcDpPrGE, EcDpPrJobMgmt, EcDpPrDeletion parameter].
  - Number of seconds (e.g., 120) between retries when trying to allocate a resource.
- DpPrMaxConcurrentDPRs [EcDpPrJobMgmt parameter].
  - Maximum allowed jobs.
  - Three integer values (e.g., 100 100 100) are assigned to DpPrMaxConcurrentDPRs; the first for routine processing; the second for on-demand processing; and the third for reprocessing jobs.
- DpPrMinConcurrentDPRs [EcDpPrJobMgmt parameter].
  - Minimum allowed jobs.
  - Three integer values (e.g., 0 0 0) are assigned to DpPrMaxConcurrentDPRs; the first for routine processing; the second for on-demand processing; and the third for reprocessing jobs.
  - Minimum number of concurrent DPRS for each job class (i.e., routine, on demand, reprocessing) NOT CURRENTLY USED.
- DpPrAutoSysMaxDPRs [EcDpPrJobMgmt parameter].
  - Total number of jobs (e.g., 100) allowed in AutoSys.
- DpPrDeleteFailedPGEJobs [EcDpPrJobMgmt parameter].
  - If TRUE, failed PGE Jobs are removed by Job Management, as necessary, when space is needed for another job that is ready to run. This is recommended to keep job management straightforward. However, this may be confusing for the operator, since they may not get a chance to see the failure if the system is busy.
  - If FALSE (the usual value), failed PGE Jobs are left in AutoSys. They must not be removed manuallyfrom AutoSys, however, since they will be removed by the Production Request Editor when a Production Request or DPR is cancelled.
- DBConnections [EcPoConnections (includes EcPlSubMgr, EcPlOdMgr, EcDpPrDeletion, EcDpPrJobMgmt and EcDpPrJobMgmtClient) parameter].
  - Number of connections needed by a particular application (e.g., 10 for EcPlOdMgr).
  - Optional parameter that specifies the number of connections to maintain in the connection pool.
  - The parameter is a list of positive integers. There must be one entry for each DbHandle in the DbHandleList.
  - Generally it should be set to the maximum number of connections that are expected to be used simultaneously in a process. If one connection per thread is used, this will be the same as the number of concurrent threads expected to execute. When the pool is used up there is a performance penalty to allocate and deallocate connections on the fly.

- If this parameter is not specified or is given as “NONE”, it defaults to 1.

- SleepDelayForFailures [EcPlSubMgr parameter].
  - Amount of time in seconds (e.g., 60) to wait before reprocessing failed notifications. If the specified value is less than 60, a default value of 60 seconds would be assumed.
  - Duration of the sleep delay used by the failed notification thread in seconds.
  - Less frequent checking can increase speed for the other threads.
- SleepDelayForTimers [EcPlSubMgr parameter].
  - Amount of time in seconds (e.g., 60) the Subscription Manager should sleep between checking for expired timers. It should be set to the minimum amount of time a timer will be set for at this DAAC. The minimum it can be set to is 60 seconds.
  - Duration of sleep delay used by the timer checking thread in seconds.
  - Less frequent checking can increase speed for the other threads.
- SleepDelayForExp [EcPlOdMgr parameter].
  - Sleep delay for expiration thread in seconds (e.g., 86400).
  - Should be considerably greater than the sleep delay for completion threads (SleepDelayForCmp).
- SleepDelayForCmp [EcPlOdMgr parameter].
  - Sleep delay for completion threads in seconds (e.g., 300).
  - Should be considerably less than the sleep delay for expiration threads (SleepDelayForExp).

NOTE: When the value assigned to a parameter has been changed and saved in the Configuration Registry, the modified value does not take effect until the affected server has been restarted. For example, if the debug level for the Subscription Manager log has been changed from "2" to "3" in the Configuration Registry, the modification does not affect the recording of data in the log until after a warm restart of the Subscription Manager (at which time the server would read the parameters in the Configuration Registry).

Table 14.7-2, below, provides an Activity Checklist table of System Tuning activities.

Table 14.7-2. Tuning System Parameters - Activity Checklist

Order	Role	Task	Section	Complete?
1	Resource Planner/ Production Planner/ Production Monitor	Monitor the Load on Processing Resources	(P) 14.7.1	

14.7.1 Monitor the Load on Processing Resources

The Production Planner and Production Monitor should work with the Resource Planner to make optimum use of processing resources. The Resource Planner allocates the disk partitions, CPUs, and RAM available for processing among the active modes (e.g., OPS, TS1, TS2). The Production Planner and Production Monitor monitor the load on the processing resources.

The Resource Planner assigns the bulk (typically 60% - 80%) of the processing resources to the OPS mode. The remainder of the processing assets are divided among the modes used for SSI&T and new version software checkout.

The Production Planner and Production Monitor monitor the load on the processing resources to identify whether the actual load is appropriately distributed among modes. They inform the Resource Planner of under- or over-use of resources as allocated.

When monitoring the load on the processing resources, the Production Planner and Production Monitor should take the following considerations into account:

- Disk space allocated to OPS mode is likely to be used to capacity.
- Disk space assigned to the other two modes may not fill up.
- There is no one-to-one mapping of CPU allocation with actual CPUs on the science processor.
- The operating system (OS) takes care of true CPU and RAM allocation.
  - Actual CPU usage during processing is limited by the OS.
  - If ten CPUs have been specified for a particular mode, only ten Data Processing Requests (DPRs) can be running the Execute job at a given time.
  - What is really being defined is the maximum number of DPRs that will execute at a given time.
- CPUs can be over-allocated or under-allocated as necessary to get the most out of the CPUs on each science processor.
- If monitoring indicates that the processor is underused when OPS mode is at full processing capacity, the number of CPUs allocated to OPS mode could probably be increased.
- If the science processor is at full capacity when OPS mode is at full processing capacity (and the processor may be overworked) the number of CPUs allocated to OPS mode should be reduced.
- Random-access memory (RAM) is subject to the same considerations as CPUs.
  - RAM can be over-allocated or under-allocated as necessary to get the most out of the memory on each science processor.

14.8 Troubleshooting Processing Problems

Troubleshooting is a process of identifying the source of problems on the basis of observed trouble symptoms. One common source of problems involves connections with other subsystems for the transmission of messages or data. Like many other operational areas in ECS, Processing

has interfaces with many other subsystems. Consequently, problems with processing can be traced to either the Data Processing Subsystem or one of many other ECS subsystems, including (but not necessarily limited to) those in the following list:

- Planning Subsystem (PLS).
- Data Server Subsystem (DSS).
- Interoperability Subsystem (IOS).
- Communications Subsystem (CSS).

Table 14.8-1, below, provides an Activity Checklist for troubleshooting Processing problems.

Table 14.8-1. Troubleshooting Processing Problems - Activity Checklist (1 of 2)

Order	Role	Task	Section	Complete?
1	Production Monitor	Troubleshoot a Processing Problem	(P) 14.8.1	
2	Production Monitor	Check Connections to Hosts/Servers	(P) 14.8.1.1	
3	Production Monitor	Check Log Files	(P) 14.8.1.2	
4	Production Monitor	Respond to Hanging of the Processing System	(P) 14.8.2	
5	Production Monitor	Check AutoSys Status	(P) 14.8.2.1	
6	Production Monitor	Check the AutoSys Log	(P) 14.8.2.2	
7	Production Monitor	Check for Database Deadlocks	(P) 14.8.2.3	
8	Production Monitor	Check for Resource Locks in the PDPS Database	(P) 14.8.2.4	
9	Production Monitor	Respond to Failure of Jobs to Start in AutoSys	(P) 14.8.3	
10	Production Monitor	Check Job Management Server Status	(P) 14.8.3.1	
11	Production Monitor	Check to Determine Whether the DPR Is Waiting in the AutoSys Queue	(P) 14.8.3.2	
12	Production Monitor	Use ISQL to Check Database Tables	(P) 14.8.3.3	
13	Production Monitor	Check to Determine Whether AutoSys Is Full	(P) 14.8.3.4	
14	Production Monitor	Respond to a Condition Where a DPR Was Released But Failed Due to a JIL Failure	(P) 14.8.3.5	
15	Production Monitor	Handle Subscription Server Problems	(P) 14.8.3.6	
16	Production Monitor	Respond to a DPR That Was Released But Failed Due to an AutoSys ID Failure	(P) 14.8.3.7	
17	Production Monitor	Respond to a DPR That Was Released But Failed Due to Invalid DPR	(P) 14.8.3.8	
18	Production Monitor	Respond to a DPR That Was Released But Failed to Be Received by Job Management Server	(P) 14.8.3.9	
19	Production Monitor	Respond to a Single DPS Job That Has Failed or Is Hanging	(P) 14.8.4	

Table 14.8-1. Troubleshooting Processing Problems - Activity Checklist (2 of 2)

Order	Role	Task	Section	Complete?
20	Production Monitor	Handle a Box Job that is Hanging in AutoSys	(P) 14.8.4.1	
21	Production Monitor	Handle a Hanging Allocation Function	(P) 14.8.4.2	
22	Production Monitor	Run Execution Management Outside of AutoSys	(P) 14.8.4.3	
23	Production Monitor	Handle a Failed Allocation Function	(P) 14.8.4.4	
24	Production Monitor	Force-Start a Job	(P) 14.8.4.5	
25	Production Monitor	Respond to a Restart of a Job That Fails Although All Known Problems Have Been Corrected	(P) 14.8.4.6	
26	Production Monitor	Handle a Hanging Staging Function	(P) 14.8.4.7	
27	Production Monitor	Handle a Failed Staging Function	(P) 14.8.4.8	
28	Production Monitor	Clean Up the DPS File Tables	(P) 14.8.4.9	
29	Production Monitor	Handle a Failed Preprocessing Job	(P) 14.8.4.10	
30	Production Monitor	Handle a Hanging Execution Job	(P) 14.8.4.11	
31	Production Monitor	Handle a Failed Execution Job	(P) 14.8.4.12	
32	Production Monitor	Respond to Execution Job and/or Postprocessing Job That Have (Has) Failed	(P) 14.8.4.13	
33	Production Monitor	Respond to Execution Job That Has Failed and the DPR Has Gone into "Failed-PGE" Processing	(P) 14.8.4.14	
34	Production Monitor	Handle a Failed Postprocessing Job	(P) 14.8.4.15	
35	Production Monitor	Handle Failure of Both Execution and Postprocessing Jobs	(P) 14.8.4.16	
36	Production Monitor	Handle a Failed Insertion Function	(P) 14.8.4.17	
37	Production Monitor	Handle a Failed Deallocate Function	(P) 14.8.4.18	
38	Production Monitor	Handle a Failed On-Demand Processing Request	(P) 14.8.5	
39	Production Monitor	Respond to a DPR that Failed in OdMgr because the PGE ID Could Not Be Found	(P) 14.8.5.1	

14.8.1 Troubleshoot a Processing Problem

Use the following procedure to troubleshoot a processing problem:

1 If it is not possible to log in to the Queuing Server host, ask the Operations Controller/System Administrator to verify that the host is “up."

- Examples of Queuing Server host names include **e0sps04**, **g0sps06**, **l0sps03**.

2 If the **AutoSys GUI Control Panel** is not displayed when the start-up script has been properly invoked, ensure that the DISPLAY variable was set properly.

- For detailed instructions refer to the procedure to **Launch the AutoSys GUI Control Panel** (Section 14.2.2).

3 If the entire processing system hangs, ensure that it is possible to connect to the necessary hosts and servers.

- For detailed instructions refer to the **Check Connections to Hosts/Servers** procedure (Section 14.8.1.1).

4 If the entire processing system hangs, go to the **Respond to Hanging of the Processing System** procedure (Section 14.8.2).

- If no jobs change state over time, it is likely that the entire processing system is hanging.

5 If jobs are activated but do not get started in AutoSys, go to the **Respond to Failure of Jobs to Start in AutoSys** procedure (Section 14.8.3).

6 If an AutoSys box job hangs, go to the **Handle a Box Job that is Hanging in AutoSys** procedure (Section 14.8.4.1).

- If a box job does not change state over time, it is likely that the job is hanging.

7 If a "preprocess" function fails, go to the **Handle a Failed Preprocessing Job** procedure (Section 14.8.4.10).

- If a preprocessing job has turned red on **JobScape** or **TimeScape**, the job has failed.

8 If an "execute" job hangs, go to the **Handle a Hanging Execution Job** procedure (Section 14.8.4.11).

- If an "execute" job has turned orange or oscillates between orange and green on **JobScape** or **TimeScape**, it is likely that the job is hanging.

9 If an "execute" job fails, go to the **Handle a Failed Execution Job** procedure (Section 14.8.4.12).

- If an "execute" job has turned red on **JobScape** or **TimeScape**, the job has failed.

10 If a "postprocess" job fails, go to the **Handle a Failed Postprocessing Job** procedure (Section 14.8.4.15).

- If a "postprocess" job has turned red on **JobScape** or **TimeScape**, the job has failed.

11 If both the "execute" and "postprocess" jobs fail, go to the **Handle Failure of Both Execution and Postprocessing Jobs** procedure (Section 14.8.4.16).

- If both the "execute" and "postprocess" jobs have turned red on **JobScape** or **TimeScape**, the jobs have failed.

12 If an on-demand processing request fails, go to the **Handle a Failed On-Demand Processing Request** procedure (Section 14.8.5).

13 If some other type of problem is encountered, check the log files for error messages.

- Examples of log files include EcDpPrJobMgmt.ALOG, EcDpPrJobMgmt.Debug.log, EcDpPrDeletion.ALOG, DPR#.ALOG, DPR#.err.
- Log files are located in the /usr/ecs/<MODE>/CUSTOM/logs directory.
- For detailed instructions refer to the **Check Log Files** procedure (Section 14.8.1.2).

14 If the problem cannot be identified and fixed without help within a reasonable period of time, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

14.8.1.1 Check Connections to Hosts/Servers

The procedure to **Check Connections to Hosts/Servers** is a part of the **Troubleshoot a Processing Problem** procedure (Section 14.8.1). Table 14.8-2 presents (in a condensed format) the steps required to check connections to hosts/servers. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the detailed procedures that follow.

1 Access a terminal window logged in to the Queuing Server host.
- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- Most other ECS hosts are acceptable for checking connections.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/utilities

- Change directory to the directory containing the utility scripts.

3 At the command line prompt enter:

EcCsIdPingServers <MODE>

- The following type of response is displayed (only a few representative lines are shown):

/usr/ecs/TS2/CUSTOM/bin/CSS/Sweeper -nsh x0icg01 -nsp 18202
FoSwSweeper application started...
We made a connection with EntryId =x0ins01:38709:23057 --- EcSrTransportSubServer
We made a connection with EntryId =x0ins01:38712:23057 --- EcSrTransportSubEventServer
We made a connection with EntryId =x0acs03:33379:17033 --- DsShQuitIDL
We made a connection with EntryId =x0wkg01:11959:41838305 --- EcDsHdfEosServer_3_G3
[…]

4 Observe the results displayed on the screen to determine whether connections can be made with the necessary hosts and servers.

- The necessary hosts and servers are listed in Table 14.8-3, Hosts, Servers, Clients and Other Software Relevant to Production Planning and Processing.

5 If it is not possible to connect to any needed host(s)/server(s), notify the Operations Controller/System Administrator to check the hosts/servers and bring them back up if necessary.

6 Return to the procedure that recommended checking connections to hosts.

Table 14.8-2. Check Connections to Hosts/Servers - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/utilities**	**enter text, press Enter**
3	**EcCsIdPingServers <MODE>**	**enter text, press Enter**
4	Identify hosts and servers with which connections cannot be made	**read text**
5	Notify the Operations Controller/System Administrator to bring hosts/servers back up (if applicable)	**contact Operations Controller**
6	Return to the procedure that recommended checking connections to hosts	

Table 14.8-3. Hosts, Servers, Clients and Other Software Relevant to Production Planning and Processing (1 of 2)

HOST	SERVER/CLIENT/OTHER SOFTWARE
Planning/Management Workstation	Production Request Editor (EcPlPREditor) Planning Workbench GUI (EcPlWb) Production Strategies GUI (EcPlProdStrat) Production Planning Master Timeline (EcPlTl) Message Handler (EcPlMsh) System Name Server (EcPlSns) Resource Model (EcPlRm)
PDPS DBMS Server	Subscription Manager (EcPlSubMgr) Sybase server (e.g., x0pls02_srvr)

Table 14.8-3. Hosts, Servers, Clients and Other Software Relevant to Production Planning and Processing (2 of 2)

HOST	SERVER/CLIENT/OTHER SOFTWARE

HOST	SERVER/CLIENT/OTHER SOFTWARE
Queuing Server (e.g., x0sps04)	Job Management Server (EcDpPrJobMgmt) Deletion Server (EcDpPrDeletion) Execution Management (EcDpPrEM) AutoSys Event Processor (event_demon) AutoSys Event Server (Sybase server) (e.g., x0sps03_srvr) On-Demand Manager (EcPlOdMgr)
Science Processor (e.g., x0spg01)	PGE Management (EcDpPrRunPGE) Resource Usage (EcDpPrRusage) PGE
SDSRV Server (e.g., x0acs03)	Science Data Server (EcDsScienceDataServer)
Access/Process Coordinators (APC) Server (e.g., x0acg01)	Archive Server (EcDsStArchiveServer) FTP Server (EcDsStFtpServer) Cache Manager Server (EcDsStCacheManagerServer) Staging Disk Server (EcDsStStagingDiskServer) Pull Monitor Server (EcDsStPullMonitorServer)
Ingest Server (e.g., x0icg01)	Registry Server (EcCsRegistry)
Interface Server 01 (e.g., x0ins02)	Advertising Server (EcIoAdServer) Data Dictionary (EcDmDictServer)
Interface Server 02 (e.g., x0ins01)	Subscription Server (EcSbSubServer) Event Server (EcSbEventServer)

NOTE: Depending on the installation, software may be loaded on hosts other than the examples provided.

14.8.1.2 Check Log Files

Log files can provide indications of the following types of problems:

- Communication problems.
- Database problems.
- Lack of disk space.

Table 14.8-4 presents (in a condensed format) the steps required to check log files. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the appropriate host.

- In general Planning Subsystem applications are installed on the Planning/ Management Workstation (e.g., **e0pls03**, **g0pls01**, or **l0pls02**).

- In general Data Processing Subsystem (PRONG) applications are installed on the Queuing Server (e.g., **e0sps04**, **g0sps06**, or **l0sps03**).
- However, QA Monitor is on the Planning/Management Workstation.
- Subscription Manager is on the PDPS DBMS Server (e.g., **e0pls02**, **g0pls02**, or **l0pls01**).
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- **<MODE>** is current mode of operation.
  - TS1 - Science Software Integration and Test (SSI&T)
  - TS2 - New Version Checkout
  - OPS - Normal Operations
- "logs" is the directory containing log files (e.g., EcDpPrJobMgmt.ALOG, EcDpPrDeletion.ALOG, EcPlSubMgrDebug.log, EcDpPrJobMgmtDebug.log).

3 At the command line prompt enter:

pg <file name>

- **<file name>** refers to the log file to be reviewed (e.g., EcDpPrJobMgmt.ALOG, EcDpPrDeletion.ALOG, <DPR number>.ALOG, <DPR number>.err, EcPlSubMgrDebug.log, EcDpPrJobMgmtDebug.log).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **more**, **vi**, **view**) can be used to review the log file.

4 Review the log file to identify problems that have occurred.

- To exit from **pg** at the **:** prompt enter:

  q

  - The command line prompt is displayed.

5 Respond to problems as follows:

- Communication problems.
  - Notify the Operations Controller/System Administrator of suspected communication problems.
- Database problems.
  - Verify that relevant database servers are running.
  - Check for lack of (or corruption of) data in the database using either a database browser or interactive structured query language (isql) commands.
  - Notify the Database Administrator of suspected database problems.
- Lack of disk space.
  - Remove unnecessary files.

– Notify the Operations Controller/System Administrator of recurring disk space problems.

Table 14.8-4. Check Log Files - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (appropriate host)	**single-click** or use procedure in Section 14.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
3	**pg <file name>**	**enter text, press Enter**
4	Identify problems indicated in the log file	**read text**
5	Respond to problems as necessary	

14.8.2 Respond to Hanging of the Processing System

If the entire processing system is hanging (if no jobs are changing state), it is probably due to one of the following conditions:

- AutoSys is not functional (e.g., the AutoSys event processor is not running).
- Database is deadlocked (preceding section of this lesson).

Use the following procedure to respond to hanging of the processing system:

1 Check AutoSys status.
- For detailed instructions refer to the **Check AutoSys Status** procedure (Section 14.8.2.1).

2 Check the AutoSys log.
- For detailed instructions refer to the **Check the AutoSys Log** procedure (Section 14.8.2.2).

14.8.2.1 Check AutoSys Status

Like any other program AutoSys can crash or experience connectivity problems between its server and its clients.

Table 14.8-5 presents (in a condensed format) the steps required to check AutoSys status. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.
- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 If the AutoSys .csh file has not already been sourced, in the terminal window, at the command line prompt, enter:

cd /<path>

- Change directory to the directory (e.g., /usr/ecs/<MODE>/COTS/autotreeb/autouser, /usr/ecs/<MODE>/COTS/autotree/autouser, /data1/SHARED/COTS/autotree/autouser) containing the set-up files (e.g., FMR.autosys.csh.x0sps02).
- The particular path to be typed may vary from site to site.

3 If the AutoSys .csh file has not already been sourced, in the terminal window, at the command line prompt, enter:

source <AUTOSYS INSTANCE>.autosys.csh.<host name>

- An **AUTOSYS INSTANCE** (also called an AUTOSERV instance) is installed as part of the Data Processing Subsystem and is identified by three capital letters.
  - AutoSys instances at the DAACs are typically identified as **FMR**.
- It is possible that multiple AutoSys instances could be installed at a DAAC.

4 At the command line prompt, enter:

chk_auto_up

- Messages are displayed indicating which machines are being checked and the results of the checks.
- A message that includes a statement similar to **"Primary Event Processor is RUNNING on machine: x0sps02"** indicates that the AutoSys Primary Event Processor is running on the Queuing Server (as it should).

5 If the Primary Event Processor is **not** running, notify the Operations Controller/System Administrator to check the server and bring it back up if necessary.

- If the Primary Event Processor does not stay up (AutoSys administrator brings it up and it goes down right away) one of the following problems may be occurring:
  - It may be possible that too many events were queued up to AutoSys while it was down. If AutoSys detects a certain number of events in a short time period, it brings itself down. The only way to handle this is to keep bringing AutoSys back up. Each time it will work through a few of the events before it detects "too many" and shuts down. Eventually the events will be cleared out and AutoSys will stay up.
  - It may be that the Sybase ASE server for AutoSys (the Event Server) is not up.

6 If the Event Processor is running, check for database-related error messages in the AutoSys log or when attempting to bring up the **JobScape** GUI.

- Refer to the **Check the AutoSys Log** procedure (Section 14.8.2.2).

- Example of database-related error messages:

  Couldn't create DBPROCES
  Unable to get encoded and plaintext passwords for x0sps02_srvr:FMR

- The error messages in the example indicate that the AutoSys Event Server (database server) may not be up.

7 At the command line prompt, enter:

ps –ef | grep sybase

- A list of the current processes that include the string "sybase" in the command is displayed.
- If the message displayed includes an entry similar to the following statement, the AutoSys Event Server (database server) is running:

  sybase 265 264 3 Apr 04 ? 620:51
  /usr/ecs/OPS/COTS/sybase/bin/dataserver -d/dev/rdsk/c0t2d0s4 -sx0sps02_srvr -e/

- If the AutoSys Event Server (database server) were **not** running, only the following type of message would be displayed:

  cmts1 25260 23874 0 09:31:45 pts/12 0:00 grep sybase

8 If the AutoSys Event Server (database server) is **not** running, notify the Operations Controller/System Administrator to check the server and bring it back up if necessary.

9 If both the AutoSys Event Processor and Event Server are running, **single-click** on the **HostScape** button on the **AutoSys GUI Control Panel**.

- The **HostScape GUI** is displayed.
- **HostScape** indicates whether AutoSys processors are connected and communicating.

10 Review the status of hosts to determine whether all computers (hosts) on which AutoSys is running are "up."

- AutoSys runs on the Queuing Server and the Science Processors.
- Hosts that are "up" (running) have green borders on the **HostScape GUI**.
- Refer to the **Review Hardware Status Using HostScape** procedure (Section 14.3.1).

11 Review the status of hosts to determine whether one (and only one) Event Processor is running.

- Refer to the **Review Hardware Status Using HostScape** procedure (Section 14.3.1).

12 If there is a host down, no Event Processor running, or multiple Event Processors running, notify the Operations Controller/System Administrator to have the host/server problem corrected.

13 If any Science Processor has a red **Alarm** box (on **HostScape**), **single-click** on the **Alarm** box.

- The **Alarm Manager** GUI is displayed.

14 Review the AutoSys Alarm log that is displayed.

- Look for problems associated with the affected Science Processor.
- Refer to the **Review Alarms Using the AutoSys Alarm Manager** procedure (Section 14.3.6).

15 If the review of alarms indicates a problem with the affected Science Processor, correct the problem or notify the Operations Controller/System Administrator to have the problem with the host corrected (as appropriate).

16 If a Science Processor was rebooted while jobs were running, at the command line prompt enter:

chase

- The AutoSys **chase** command verifies and corrects the AutoSys database.

Table 14.8-5. Check AutoSys Status - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server host))	**single-click** or use procedure in Section 14.2.1
2	**cd /<path>** (to the directory containing the AutoSys set-up files) (if applicable)	**enter text, press Enter**
3	**source <AUTOSYS INSTANCE>.autosys.csh.<host name>** (if applicable)	**enter text, press Enter**
4	**chk_auto_up**	**enter text, press Enter**
5	Notify the Operations Controller/System Administrator to check the AutoSys Event Processor and bring it back up (if applicable)	**contact Operations Controller**
6	Check for database-related error messages in the AutoSys log	Use procedure in Section 14.8.2.2
7	**ps –ef | grep sybase**	**enter text, press Enter**
8	Notify the Operations Controller/System Administrator to check the AutoSys Event Server and bring it back up if necessary	**single-click**
9	**HostScape** button (**AutoSys GUI Control Panel**)	**single-click**
10	Review the status of hosts	Use procedure in Section 14.3.1
11	Review the status of the Event Processor	Use procedure in Section 14.3.1
12	Notify the Operations Controller/System Administrator to have the host/server problem corrected (if applicable)	**contact Operations Controller**

Table 14.8-5. Check AutoSys Status - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take

Step	What to Enter or Select	Action to Take
13	**Alarm** box (if applicable)	**single-click**
14	Review the AutoSys Alarm log (if applicable)	**read text**
15	Correct the problem or notify the Operations Controller/System Administrator to have the problem with the host corrected (as appropriate)	
16	**chase** (if applicable)	**enter text, press Enter**

14.8.2.2 Check the AutoSys Log

The AutoSys event demon log tells how a DPR has progressed through AutoSys, showing failures and force-starts of jobs.

The procedure that follows describes the use of the UNIX **grep** command on the DPR Id in the event demon log file. An alternative is to use the **vi** command to view the full log, which contains timestamps. Another alternative is to request either a Summary Report or an Event Report from the Job Activity Console (Ops Console) as described in the procedure for **Reviewing Job Activities** (previous section of this lesson).

Table 14.8-6 presents (in a condensed format) the steps required to check the AutoSys log. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 At the command line prompt, enter:

cd /<path>

- Change directory to the directory (e.g., /usr/ecs/<MODE>/COTS/autotreeb/autouser/out, /usr/ecs/<MODE>/COTS/autotree/autouser/out, /data1/SHARED/COTS/autotree/autouser/out) containing the event demon log file (e.g., event_demon.FMR).
- The AutoSys event demon log is named event_demon.<AutoSys Instance>.
  - The AutoSys Instance at the DAACs is typically **FMR**.
- The particular path to be typed may vary from site to site.

3 At the command line prompt, enter:

grep <job name> event_demon.<AutoSys Instance>

- If there were no problems, the results should appear as follows:

  grep MoPGE02#2014193500OPS event_demon.FMR

  EVENT: STARTJOB JOB: MoPGE02#2014193500OPS
  EVENT: CHANGE_STATUS STATUS: RUNNING JOB: MoPGE02#2014193500OPS
  EVENT: CHANGE_STATUS STATUS: STARTING JOB: MoPGE02#2014193500OPSR
  EVENT: CHANGE_STATUS STATUS: RUNNING JOB: MoPGE02#2014193500OPSR
  EVENT: CHANGE_STATUS STATUS: SUCCESS JOB: MoPGE02#2014193500OPSR
  EVENT: CHANGE_STATUS STATUS: STARTING JOB: MoPGE02#2014193500OPSE
  EVENT: CHANGE_STATUS STATUS: RUNNING JOB: MoPGE02#2014193500OPSE
  EVENT: CHANGE_STATUS STATUS: SUCCESS JOB: MoPGE02#2014193500OPSE
  EVENT: CHANGE_STATUS STATUS: STARTING JOB: MoPGE02#2014193500OPSP
  EVENT: CHANGE_STATUS STATUS: RUNNING JOB: MoPGE02#2014193500OPSP
  EVENT: CHANGE_STATUS STATUS: SUCCESS JOB: MoPGE02#2014193500OPSP
  EVENT: CHANGE_STATUS STATUS: STARTING JOB:
  EVENT: CHANGE_STATUS STATUS: SUCCESS JOB: MoPGE02#2014193500OPS

- When there are no problems, each command job goes through the following changes of status: STARTING, RUNNING, SUCCESS.
- If there are problems, something similar to the following results may be obtained:

  grep MoPGE02#2014193500OPS event_demon.FMR

  EVENT: STARTJOB JOB: MoPGE02#2014193500OPS
  EVENT: CHANGE_STATUS STATUS: RUNNING JOB: MoPGE02#2014193500OPS
  EVENT: CHANGE_STATUS STATUS: STARTING JOB: MoPGE02#2014193500OPSR
  EVENT: CHANGE_STATUS STATUS: RUNNING JOB: MoPGE02#2014193500OPSR
  EVENT: CHANGE_STATUS STATUS: FAILURE JOB: MoPGE02#2014193500OPSR
  EVENT: ALARM ALARM: JOBFAILURE JOB:

MoPGE02#2014193500OPSR
EVENT: FORCE_STARTJOB JOB: MoPGE02#2014193500OPSR
EVENT: CHANGE_STATUS STATUS: STARTING JOB: MoPGE02#2014193500OPSR
EVENT: CHANGE_STATUS STATUS: RUNNING JOB: MoPGE02#2014193500OPSR
EVENT: CHANGE_STATUS STATUS: SUCCESS JOB: MoPGE02#2014193500OPSR
.....

- The job in the example had some failures and a force-start.

4 If the AutoSys event log does not indicate any problems, check for database deadlocks.

- For detailed instructions refer to the **Check for Database Deadlocks** procedure (Section 14.8.2.3).

Table 14.8-6. Check the AutoSys Log - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
2	**cd /<path>** (to event demon log file)	**enter text, press Enter**
3	**grep <job name> event_demon.<AutoSys Instance>**	**Enter text, press Enter**
4	Check for database deadlocks (if applicable)	Use procedure in Section 14.8.2.3

14.8.2.3 Check for Database Deadlocks

A deadlock occurs when a database transaction locks a record that another transaction needs and the second transaction locks the record that first transaction needs. Each program must wait until the other completes. However, neither can complete (because each is waiting for the other) so both end up waiting indefinitely.

Table 14.8-7 presents (in a condensed format) the steps required to check for database deadlocks. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Log in to the appropriate PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 14.8.3.3).

2 At the **1>** prompt enter:

sp_lock

3 At the **2>** prompt enter:

go

- Results displayed include the following features:
  - **spid** column shows the process id. The database user that owns a process can be determined using the **sp_who** isql command.
  - **locktype** column indicates a problem if the entry starts with "Ex_" (exclusive).
  - **table_id** column identifies the table that the corresponding spid has locked. The name of the table can be determined using the **select** command [i.e., **select object_name (table_id)**].

4 At the **1>** prompt enter:

select object_name (<table id>)

- For example, to check the exclusive locks related to spid 24, table ID 197575742, enter:

  1> select object_name (197575742)

5 At the **2>** prompt enter:

go

- The object name is displayed (e.g., PlDprData).

6 At the **1>** prompt enter:

sp_who

7 At the **2>** prompt enter:

go

- A listing of connections to the database is displayed.
- The listing includes data in the following columns:
  - **spid.**
  - **status.**
  - **loginame.**
  - **hostname.**
  - **blk.**
  - **dbname.**
  - **cmd.**

8 Analyze the results of the request.

- The **blk** column shows the spid of the process that is doing the blocking.
- The **cmd** column shows the command that the blocked process is trying to complete.

9 To exit from **isql** at the **1>** prompt enter:

quit

- The connection with the database is discontinued.

10 If there is a deadlock in the database, ask the Operations Controller to bounce the server that is causing the deadlock.

11 If there is no deadlock, perform the **Check for Resource Locks in the PDPS Database** procedure (Section 14.8.2.4).

Table 14.8-7. Check for Database Deadlocks - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Log in to the PDPS database	Use procedure in Section 14.8.3.3
2	**sp_lock**	**enter text, press Enter**
3	**go**	**enter text, press Enter**
4	**select object_name (<table id>)**	**enter text, press Enter**
5	**go**	**enter text, press Enter**
6	**sp_who**	**enter text, press Enter**
7	**go**	**enter text, press Enter**
8	Analyze the results of the request	**read text**
9	**quit**	**enter text, press Enter**
10	Ask the Operations Controller to bounce any server that is causing a deadlock (if applicable)	**contact Operations Controller**
11	Check for resource locks in the PDPS database (if there is no deadlock)	Use procedure in Section 14.8.2.4

14.8.2.4 Check for Resource Locks in the PDPS Database

Resource locks used to occur if there was an attempt to delete DPRs/PRs while their corresponding jobs were still running in AutoSys or jobs had been explicitly killed before the DPRs/PRs were deleted. However, resource locking has been removed for all Resource Management calls (e.g., for allocating CPUs and disk space). The locks have been replaced with the following features:

- Sybase stored procedures that use transactions.
- Database triggers.

Resource locking is still used for disk space reclamation. Momentary system interruptions occur during the process of disk space reclamation. The interruptions may happen several times a day. The system may look like it is "hung" during such periods. The procedure that follows should be performed to verify that disk space reclamation is proceeding normally:

Although the procedure for checking for resource locks in the PDPS database includes the use of isql commands, an acceptable alternative is to use a database browser to check the contents of the DpPrResourceLock table.

Table 14.8-8 presents (in a condensed format) the steps required to check for resource locks in the PDPS database. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Log in to the appropriate PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 14.8.3.3).

2 At the **1>** prompt enter:

select * from DpPrResourceLock

- Prepare a request to view the contents of the DpPrResourceLock table.

3 At the **2>** prompt enter:

go

- The contents of the **DpPrResourceLock** table are displayed.
- The listing includes data in the following columns:
  - **jobId.**
  - **priority.**
  - **ecsUnit.**
  - **attempts.**
  - **state.**
  - **pid.**
  - **queuePosition.**

4 Analyze the results of the request.

- A jobId with a state <> 0 would indicate a resource lock.
  - If there are entries in the **DpPrResourceLock** table and there are no other jobs running in AutoSys, all entries in the table need to be deleted before the DPR/PR deletion can complete.
  - If other jobs (DPRs) are currently being executed in AutoSys and the other jobs should not be deleted, the entries in the table that need to be deleted are those related to the job to be deleted only. The entries concerning the other (running) jobs must be left in the table.

- If there is no evidence of a resource lock, go to Step 8.

5 If all entries in the DpPrResourceLock table are to be deleted, at the **1>** prompt enter:

delete DpPrResourceLock

- Go to Step 7.

6 If some (but not all) entries in the DpPrResourceLock table are to be deleted, at the **1>** prompt enter:

delete DpPrResourceLock where jobId like "<job Id>"

- **<job Id>** specifies the job whose entries are to be deleted.

7 At the **2>** prompt enter:

go

- Entries in the **DpPrResourceLock** table are deleted.
- The DPR/PR deletion that was delayed by the resource lock should go to completion.

8 To exit from **isql** at the **1>** prompt enter:

quit

- The connection with the database is discontinued.
- If entries were deleted from the DpPrResourceLock table the procedure is finished; otherwise, continue with Step 9.

9 Access a terminal window logged in to the Queuing Server.

- Examples of Queuing Server host names include **e0sps04**, **g0sps06**, **l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

10 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the data processing log files (e.g., EcDpPrJobMgmt.ALOG, EcDpPrDeletion.ALOG).

11 At the command line prompt enter:

tail -f <job Id>.err

- **<job Id>.err** refers to the data processing log file to be reviewed.

12 Observe the log file to determine whether entries are being made in the file.

- If messages are being entered in the log file, there is probably no resource lock.

13 To quit tailing the log in the terminal window enter:

Ctrl-C

- A command line prompt is displayed in the terminal window.

14 Ensure that it is possible to connect to the necessary hosts and servers.

- For detailed instructions refer to the **Check Connections To Hosts/Servers** procedure (Section 14.8.1.1).

15 If no there is no database deadlock or resource lock and the Data Processing Subsystem servers (especially Deletion Server and Job Management Server) are up, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 14.8-8. Check for Resource Locks in the PDPS Database - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Log in to the PDPS database	Use procedure in Section 14.8.3.3
2	**Select * from DpPrResourceLock**	**enter text, press Enter**
3	**go**	**enter text, press Enter**
4	Analyze the results of the request.	**read text**
5	**delete DpPrResourceLock** or **delete DpPrResourceLock where jobId like "<job Id>"** (as applicable)	**enter text, press Enter**
6	**go** (if applicable)	**enter text, press Enter**
7	**quit**	**enter text, press Enter**
8	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
9	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
10	**tail -f <job Id>.err**	**enter text, press Enter**
11	Observe the log file (Are entries are being made in the log file?)	**read text**
12	**Ctrl-C**	**enter text**
13	Check connections to hosts/servers	Use procedure in Section 14.8.1.1
14	Call the help desk and submit a trouble ticket (if applicable)	Use procedure in Chapter 8

14.8.3 Respond to Failure of Jobs to Start in AutoSys

Subscriptions are processed and cause jobs to be released into AutoSys by means of the following process:

- An ESDT is "registered" to the Science Data Server (SDSRV). The ESDT information includes three events (insert, delete, and update metadata) and a datatype. It is possible to enter a subscription for any of the events.
- SDSRV sends information concerning the "subscribable events" to the Advertising Server (IOADV).
- The Production Request Editor (PRE) gets the event IDs from IOADV for datatypes that are needed for processing and sends the event ID and the Subscription Manager (SubsMgr) name to the Subscription Server (SubsSrv) in order to get a subscription ID back. The event ID is not saved in the PDPS database. The subscription is saved in the subscriptionFlag column in the PlDataTypeMaster table in the PDPS database.
- When an “insert” event (or a “delete” event or an “update metadata” event) occurs, SDSRV sends notification to SubsSrv, which sends the Subscription ID to the PLS Subscription Manager. The Subscription Manager is identified by name in the SubsSrv database in connection with the Subscription ID.
- Subscription Manager gets the UR for the inserted granule from the SDSRV and updates the UR information in the PlDataGranule table in the PDPS database. In the simple case (e.g., for Production Requests that do not require optional inputs or alternate inputs) SubsMgr checks to see if all of the datatypes in PlDprData that have an ioFlag of 0 (input) for the DPR are present in the data archive and can be acquired. If this is the case, SubsMgr sends a ReleaseDprJob request to the Job Management Server to release the job into AutoSys.

Jobs that are activated may not get started in AutoSys for any of the following reasons:

- Job Management server is down.
- DPR is waiting in the AutoSys queue (never got released).
- DPR was released but failed due to an AutoSys ID failure.
- DPR was released but failed due to invalid DPR.
- DPR was released but was not received by the Job Management server.

Use the following procedure to respond to the failure of jobs to start in AutoSys:

1 Perform the appropriate procedure(s) related to checking Job Management server status:

- **Check Job Management Server Status** (Section 14.8.3.1).
- **Check to Determine Whether the DPR Is Waiting in the AutoSys Queue** (Section 14.8.3.2).
- **Use ISQL to Check Database Tables** (Section 14.8.3.3).
- **Check to Determine Whether AutoSys Is Full** (Section 14.8.3.4)
- **Respond to a Condition Where a DPR Was Released But Failed Due to a JIL Failure** (Section 14.8.3.5)

- **Handle Subscription Server Problems** (Section 14.8.3.6)

2 Check for a DPR that was released but failed due to an AutoSys ID failure procedure.
- For detailed instructions refer to the **Respond to a DPR That Was Released But Failed Due to an AutoSys ID Failure** procedure (Section 14.8.3.7).

3 Check for a DPR that was released but failed due to invalid DPR.
- For detailed instructions refer to the **Respond to a DPR That Was Released But Failed Due to Invalid DPR** procedure (Section 14.8.3.8).

4 Check for a DPR that was released but failed to be received by the Job Management server.
- For detailed instructions refer to the **Respond to a DPR That Was Released But Failed to Be Received by Job Management Server** procedure (Section 14.8.3.9).

14.8.3.1 Check Job Management Server Status

If jobs that are activated do not get started in AutoSys, it may be because the Job Management server is down. Consequently, one of the first steps in investigating why jobs do not get started in AutoSys is to check the status of the Job Management server.

Table 14.8-9 presents (in a condensed format) the steps required to check Job Management Server status. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.
- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 At the command line prompt, enter:

ps -ef | grep EcDpPrJobMgmt

- A list of the current processes that include the string "EcDpPrJobMgmt" in the command is displayed.
- If the message displayed includes an entry similar to the following statement, the Job Management Server is running in OPS mode:

  cmshared 22595 1 0 12:06:55 pts/12 0:02 /usr/ecs/OPS/CUSTOM/bin/DPS/EcDpPrJobMgmt ConfigFile /usr/ecs/OPS/CUSTOM/cfg/Ec

- If the Job Management Server were **not** running, only the following type of message would be displayed:

  cmshared 7961 7939 0 15:26:24 pts/13 0:00 grep EcDpPrJobMgmt

3 If the server has gone down, notify the Operations Controller/System Administrator to have the server brought back up.

4 If the Job Management Server (EcDpPrJobMgmt) is "up," continue with the **Check to Determine Whether the DPR Is Waiting in the AutoSys Queue** procedure (Section 14.8.3.2).

Table 14.8-9. Check Job Management Server Status - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
2	**ps -ef | grep EcDpPrJobMgmt**	**enter text, press Enter**
3	Notify the Operations Controller/System Administrator to have the server brought back up (if applicable)	**contact Operations Controller**
4	Determine whether the DPR is waiting in the AutoSys queue	Use procedure in Section 14.8.3.2

14.8.3.2 Check to Determine Whether the DPR Is Waiting in the AutoSys Queue

The Job Management server may have never received a ReleaseDprJob command from the PLS Subscription Manager. As a result the job would wait in the AutoSys queue and would not be able to start processing.

Table 14.8-10 presents (in a condensed format) the steps required to check to determine whether the DPR is waiting in the AutoSys queue. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Log in to the appropriate PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 14.8.3.3).
- For example:

  x0sps02{cmshared}43: isql -U pdps_role -S x0pls02_srvr
  Password:
  1> use pdps
  2> go

2 At the **1>** prompt enter:

select * from DpPrCreationQueue

3 At the **2>** prompt enter:

go

- Contents of the following columns of the **DpPrCreationQueue** table are displayed:
  - **dprId.**
  - **autosysId.**
  - **priority.**
  - **hold.**
- For example:

```
dprId                          autosysId          priority    hold
------------------------------ ------------------ ----------- ----
ETS#syn1#014020000OPS          FMR                        250    1
ETS#syn1#014020010OPS          FMR                        250    1
ETS#syn1#014020020OPS          FMR                        250    1
ETS#syn1#014020030OPS          FMR                        250    1
ETS#syn1#014020040OPS          FMR                        250    1
ETS#syn1#014020050OPS          FMR                        250    1
ETS#syn1#014020100OPS          FMR                        250    1
ETS#syn1#014020110OPS          FMR                        250    1
ETS#syn1#014020130OPS          FMR                        250    1

(9 rows affected)
```

- If the job is listed in the **DpPrCreationQueue** table, it probably never got a ReleaseDprJob command from the PLS Subscription Manager (unless AutoSys is full).
  - If applicable, refer to the **Check to Determine Whether AutoSys Is Full** procedure (Section 14.8.3.4).

4 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

5 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the log files (e.g., EcDpPrJobMgmt.ALOG, EcDpPrDeletion.ALOG, <DPR number>.ALOG, <DPR number>.err, EcPlSubMgrDebug.log, EcDpPrJobMgmtDebug.log).

6 At the command line prompt enter:

pg EcDpPrJobMgmtDebug.log

- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

7 Review the Job Management debug log file for an entry indicating that Job Management received the ReleaseDprJob command for the job.

- For example:

  03/30/00 11:38:09: ----------

  DpPrScheduler_1_0_Mgr::ReleaseDprJob(dpr_id dpr) CALLED.
  ETS#syn1#004130123OPS

  03/30/00 11:38:09: In DpPrScheduler::ReleaseDprJob, dpr=
  ETS#syn1#004130123OPS
  03/30/00 11:38:09: DpPrCreationQueue::SetDprHoldStatus, dprId=
  ETS#syn1#004130123OPS
  DpPrCreationQueue::SetDprHoldStatus, autoSysId= VAT
  DpPrCreationQueue::SetDprHoldStatus, holdStatus= 0
  03/30/00 11:38:09: DpPrCreationQueue::HasAutosysId, autosysId= 0xee4534d8
  03/30/00 11:38:09: DpPrCreationQueue::HasAutosysId, autosysId= 0xee4534d8
  03/30/00 11:38:09: removed ETS#syn1#004130123OPS
  there are now 0entries on this queue
  queue priority of this node is now 250

- If Job Management received the ReleaseDprJob command for the job, there may have been a JIL (AutoSys Job Information Language) processor problem.
  - If necessary, refer to the **Respond to a Condition Where a DPR Was Released But Failed Due to a JIL Failure** procedure (Section 14.8.3.5).
- If there is no evidence that Job Management received the ReleaseDprJob command for the job, the PLS Subscription Manager did not send the command.
  - Subscription Manager does not send the ReleaseDprJob command unless it thinks that all of the DPR's required inputs have been received.
- To exit from **pg** at the **:** prompt enter:

  q

  - The command line prompt is displayed.

8 If the DPR is a regular one (e.g., with no alternate or optional inputs), access a terminal window logged in to the appropriate PDPS database.

9 At the **1>** prompt enter:

select dprId,granuleId,ioFlag from PlDprData where dprId like "<DPR ID>"

- For example:

  1> select dprId,granuleId,ioFlag from PlDprData where dprId like "ETS#syn1#004130123OPS"

10 At the **2>** prompt enter:

go

- Contents of the following columns of the **PlDprData** table are displayed:
  - **dprId.**
  - **granuleId.**
  - **ioFlag.**
- For example:

```
dprId
      granuleId
      ioFlag
 ----------------------------
      ------------------------------------------------------------------------------------------------
---------------------------------
      ----------
ETS#syn1#004130123OPS
      AST_05#00102141998020120000
            1
ETS#syn1#004130123OPS
      AST_08#00102141998020120000
            1
ETS#syn1#004130123OPS
      AST_09T#00102141998020120000
            0

ETS#syn1#004130123OPS
     AST_ANC#001L1004
            0

(4 rows affected)
```

- In the preceding example there are four **granuleId** column entries for the example DPR (ETS#syn1#004130123OPS); two have an **ioFlag** column entry of 0 (an input granule) and two have an **ioFlag** column entry of 1 (output granule).

11 At the **1>** prompt enter:

select universalReference from PlDataGranule where granuleId like "<granule ID>"

- For example:

  1> select universalReference from PlDataGranule where granuleId like "AST_09T#00102141998020120000"

12 At the **2>** prompt enter:

go

- Contents of the **universalReference** column of the **PlDataGranule** table are displayed:
- For example:

  universalReference

  UR:10:DsShESDTUR:UR:15:DsShSciServerUR:13:[XDC:DSSDSRV]:19:SC:AST_09T.001:5672

  (1 row affected)

13 Repeat Steps 11 and 12 for each applicable **granuleId**.

- If all of the input granules have URs (as opposed to granuleId), the Subscription Manager *should* have sent a ReleaseDprJob command to Job Management.
- To check the preceding example observe the entries for granuleId AST_ANC#001L1004.

14 To exit from **isql** at the **1>** prompt enter:

quit

- The connection with the database is discontinued.

15 Access a terminal window logged in to the PDPS DBMS host.

- Examples of PDPS DBMS Server host names include **e0pls02, g0pls02, l0pls01**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

16 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the log files (e.g., EcDpPrJobMgmt.ALOG, EcDpPrDeletion.ALOG, <DPR number>.ALOG, <DPR number>.err, EcPlSubMgrDebug.log, EcDpPrJobMgmtDebug.log).

17 At the command line prompt enter:

pg EcPlSubMgrDebug.log

- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

18 Review the Subscription Manager debug log file for an entry indicating that Subscription Manager sent the ReleaseDprJob command for the job to Job Management.

- For example:

DpPrSchedulerProxy::ReleaseDprJob :
ETS#syn1#004130123OPS
03/30/00 11:37:07: Destroying DpPrSchedulerProxy object

19 Review the Subscription Manager debug log file for subscription notification from the Subscription Server concerning dynamic data that the DPR needs.

- For example:

03/30/00 11:36:58: ***** Begining of PlSubMsgCb::HandleCbMsg() *******
03/30/00 11:36:58: Entire message = Subscription Notification::
UR:10:DsShESDTUR:UR:15:DsShSciServerUR:13:[XDC:DSSDSRV]:19:SC:AST_09T.001:5478

ESDT Information: AST_09T.001:INSERT

User Information: SubsMgr

EventID: 805

Subscription ID: 82

Qualifier List:
UR:10:DsShESDTUR:UR:15:DsShSciServerUR:13:[XDC:DSSDSRV]:19:SC:AST_09T.001:5478 AsterGranule 03/30/2000 16:36:27 Day This is a quality flag Passed 30 20 GuruTej 1 AST_09T
UR:10:DsShESDTUR:UR:15:DsShSciServerUR:13:[XDC:DSSDSRV]:19:SC:AST_L1B.001:5400
UR:10:DsShESDTUR:UR:15:DsShSciServerUR:13:[XDC:DSSDSRV]:19:SC:AST_ANC.001:5369 (((90.0000, -180.0000), (90.0000, 180.0000), (-90.0000, 180.0000), (-90.0000, -180.0000))) 13:01:23.000000Z 07/04/1997 1.0 5478 SC AST_09T.001 AST_09T#00107041997130123000000 0
:SC:AST_09T.001:5478:1.HDF-EOS 0 40367 DRP1_OPS:AST_09T.001 1 None 0.04036699980497360

…

- The preceding example shows subscription notification for a granule of AST_09T (input for ETS) that has been inserted into the archive.

20 If there is no Subscription Server notification to Subscription Manager or if it seems likely that all of the necessary input files for the DPR have been inserted by another DPR, investigate Subscription Server problems.

- For detailed instructions refer to the **Handle Subscription Server Problems** procedure (Section 14.8.3.6).

21 If there are no Subscription Server Problems, all of the input granules for the DPR have URs, and/or Subscription Manager received notification for all dynamic granules, notify the Operations Controller/System Administrator that there may be a problem with the Subscription Manager.

Table 14.8-10. Check to Determine Whether the DPR Is Waiting in the AutoSys Queue - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Log in to the appropriate PDPS database	Use procedure in Section 14.8.3.3
2	**select * from DpPrCreationQueue**	**enter text, press Enter**
3	**go**	**enter text, press Enter**
4	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
5	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
6	**pg EcDpPrJobMgmtDebug.log**	**enter text, press Enter**
7	Determine whether Job Management received the ReleaseDprJob command for the job	**read text**
8	If the DPR is a regular one, access a terminal window logged in to the appropriate PDPS database	**single-click**
9	**select dprId,granuleId,ioFlag from PlDprData where dprId like "<DPR ID>"**	**enter text, press Enter**
10	**go**	**enter text, press Enter**
11	**select universalReference from PlDataGranule where granuleId like "<granule ID>"**	**enter text, press Enter**
12	**go**	**enter text, press Enter**
13	Repeat Steps 11 and 12 for each applicable granuleId	
14	**quit**	**enter text, press Enter**
15	UNIX window (PDPS DBMS Server)	**single-click** or use procedure in Section 14.2.1
16	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
17	**pg EcPlSubMgrDebug.log**	**enter text, press Enter**

Table 14.8-10. Check to Determine Whether the DPR Is Waiting in the AutoSys Queue - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take

18	Determine whether Subscription Manager sent the ReleaseDprJob command for the job to Job Management	**read text**
19	Determine whether Subscription Manager received subscription notification from the Subscription Server concerning dynamic data that the DPR needs	**read text**
20	If there is no Subscription Server notification to Subscription Manager or if it seems likely that all of the necessary input files for the DPR have been inserted by another DPR, investigate Subscription Server problems	Use procedure in Section 14.8.3.6
21	If there are no Subscription Server Problems, all of the input granules for the DPR have URs, and/or Subscription Manager received notification for all dynamic granules, notify the Operations Controller/System Administrator that there may be a problem with the Subscription Manager	**contact Operations Controller**

14.8.3.3 Use ISQL to Check Database Tables

The PDPS database is the repository of data concerning PGEs, Production Requests, Data Processing Requests, Production Strategies, Production Plans and other production-related data. The Subscription Server (SUBSRV) database contains data concerning subscriptions.

The data stored in databases can be checked using either a database browser or isql commands. The procedure in this section describes how to check the tables using isql commands.

Table 14.8-11 presents (in a condensed format) the steps required to use isql to check database tables. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the appropriate host.

- Examples of Planning/Management Workstation host names include **e0pls03**, **g0pls01**, **l0pls02**.
- Examples of Subscription Server host names include **e0ins01**, **g0ins01**, **l0ins01**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 At the command line prompt enter:

isql –U <user ID> -S <database server>

- **<user ID>** is the database user's identification; e.g., **pdps_role**.
- **<database server>** is the database server; e.g., **g0pls02_srvr**.

3 At the **Password:** prompt enter:

<database password>

- **<database password>** is the password for logging in to the database using the specified **<user ID>**.
- A **1>** prompt is displayed, indicating that a connection has been made with the database.

4 At the **1>** prompt enter:

use <database name>

- The **<database name>** is likely to be one of the following names:
  - **pdps** [OPS mode].
  - **pdps_TS1** [TS1 mode].
  - **pdps_TS2** [TS2 mode].

5 At the **2>** prompt enter:

go

6 At the **1>** prompt enter:

select * from <table name>

- Alternatively, enter:

  select <column name> from <table name>

- Another alternative:

  select <column name1>,<column name2>[,<column name3>,…] from <table name>

7 At the **2>** prompt enter:

go

- Table contents are displayed.
  - If * was specified, all entries in the table are displayed.
  - If specific column names were entered, the data associated with those columns only are displayed.

8 To exit from **isql** at the **1>** prompt enter:

quit

- The connection with the database is discontinued.

Table 14.8-11. Use ISQL to Check Database Tables - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (appropriate host)	**single-click** or use procedure in Section 14.2.1
2	**isql –U <user ID> -S <database server>**	**enter text, press Enter**
3	**<database password>**	**enter text, press Enter**
4	**use <database name>**	**enter text, press Enter**
6	**go**	**enter text, press Enter**
5	**select * from <table name>**	**enter text, press Enter**
7	**go**	**enter text, press Enter**
8	**quit**	**enter text, press Enter**

14.8.3.4 Check to Determine Whether AutoSys Is Full

This is an unlikely problem and would occur only when the DPR completionState in the PlDataProcessingRequest database table is CQ_RELEASE.

Table 14.8-12 presents (in a condensed format) the steps required to check to determine whether AutoSys is full. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Log in to the appropriate PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 14.8.3.3).
- For example:

  x0sps02{cmshared}43: isql -U pdps_role -S x0pls02_srvr
  Password:
  1> use pdps
  2> go

2 At the **1>** prompt enter:

select dprId,completionState from PlDataProcessingRequest where dprId like "<DPR ID>"

- For example:

  1> select dprId,completionState from PlDataProcessingRequest where dprId like "ETS#syn1#014020000OPS"

3 At the **2>** prompt enter:

go

- Contents of the following columns of the **PlDataProcessingRequest** table are displayed:
  - **dprId.**
  - **completionState.**
- For example:

dprId completionState
---------- ----------
ETS#syn1#014020000OPS CQ_HOLD

(1 row affected)

4 To exit from **isql** at the **1>** prompt enter:

quit

- The connection with the database is discontinued.

5 If the value in the **completionState** column for the DPR in the PDPS database **PlDataProcessingRequest** table is "CQ_RELEASE" wait for a DPR to finish, so that the next waiting one can be put into AutoSys.

- The Job Management server got the command from Subscription Manager to release the job but AutoSys cannot accommodate any more jobs at present.

6 If the value in the **completionState** column for the DPR in the PDPS database PlDataProcessingRequest table is "JIL_FAILUR," respond to the JIL failure.

- For detailed instructions refer to the **Respond to a Condition Where a DPR Was Released But Failed Due to a JIL Failure** procedure (Section 14.8.3.5).

Table 14.8-12. Check to Determine Whether AutoSys Is Full - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Log in to the appropriate PDPS database (if applicable)	Use procedure in Section 14.8.3.3
2	**select dprId,completionState from PlDataProcessingRequest where dprId like "<DPR ID>"**	**enter text, press Enter**
3	**go**	**enter text, press Enter**
4	**quit**	**enter text, press Enter**

Table 14.8-12. Check to Determine Whether AutoSys Is Full - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
5	If the value in the **completionState** column for the DPR is "CQ_RELEASE," wait for a DPR to finish, so that the next waiting one can be put into AutoSys	**wait**
6	If the value in the **completionState** column for the DPR is "JIL_FAILUR," respond to the JIL failure	Use procedure in Section 14.8.3.5

14.8.3.5 Respond to a Condition Where a DPR Was Released But Failed Due to a JIL Failure

A "JIL Failure" means that the Job Management Server had some problem placing the DPR in AutoSys. The Job Interface Language (JIL) processor rejected the “create job” command sent to it by the Job Management Server. The principal reasons for a JIL failure are as follows:

- There is already a job with an identical name in AutoSys.
- The AutoSys event processor is down. (Refer to the **Check AutoSys Status** procedure (Section 14.8.2.1).)
- The job had a problem when it was loaded into AutoSys and a malformed or mutant job box is the result.

Table 14.8-13 presents (in a condensed format) the steps required to respond to a condition where a DPR was released but failed due to a JIL failure. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Check whether there is already a job with an identical name in AutoSys.

- For detailed instructions refer to the **Review Job Activities Using the AutoSys Job Activity Console** procedure (Section 14.3.9).
- When specifying job selection criteria, type a portion of the job name in the "Job Name" box, bracketed by the "*" or "%" wildcard character.
  - For detailed instructions refer to the **Specify Job Selection Criteria for the AutoSys Job Activity Console** procedure (Section 14.3.8).

2 If there is a job with an identical name already in AutoSys, either request the Production Planner to delete it using the **Production Request Editor** or delete the job using the Job Management Client tool.

- For detailed instructions on deleting a job using the Job Management Client tool refer to the **Perform Job Management Functions** procedure (Section 14.4.4).

- Jobs should **not** be deleted using the AutoSys **Job Definition** GUI because it does not communicate with the PDPS database.

3 If there is not a job with an identical name already in AutoSys, observe the characteristics of the job box in **JobScape**.

- For detailed instructions refer to the **Review DPR Dependencies Using JobScape** procedure (Section 14.3.3).
- If the job box is malformed or mutant, it will stay dark blue (meaning that it was not activated) and may be missing one of the three job steps.

4 If the job box is malformed or mutant, in **JobScape place** the mouse cursor on the job, **single-click** and **hold** the **right** mouse button, **move** the mouse cursor to **Job Definition** (highlighting it), then **release** the mouse button.

- Pop-up menu appears with the options **<job name>, Show Children, Show All Descendants, Hide All Descendants. Show Job Arrows, Hide Job Arrows, Show Box Arrows, Hide Box Arrows, Job Definition, View Dependencies, Set Simulation, Overrides** [grayed out], **Start Job, Kill Job, Force Start Job, On Hold, Off Hold, On Ice, Off Ice.**
- The **Job Definition** GUI is displayed.

5 If the job box is malformed or mutant, **single-click** on the **Delete** button.

NOTE: In general, it is bad practice to delete a job from AutoSys using the AutoSys **Job Definition** GUI because the AutoSys database and PDPS database lose their synchronization. However, there is no other solution in this case and the PDPS database must be updated manually.

6 To exit from the **Job Definition** GUI **single-click** on the **Exit** button.

- The **Job Definition** GUI is dismissed.

7 If a malformed or mutant job box was deleted, log in to the appropriate PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 14.8.3.3).
- For example:

  x0sps02:/usr/ecs/OPS/CUSTOM/[4] > isql -U pdps_role -S x0pls02_srvr
  Password:
  1> use pdps
  2> go

8 If a malformed or mutant job box was deleted, at the **1>** prompt enter:

update PlDataProcessingRequest set completionState="" where dprId like "<DPR ID>"

- For example:

  1> update PlDataProcessingRequest set completionState="" where dprId like "MoPGE02#2014193500OPS"

9 If a malformed or mutant job box was deleted, at the **2>** prompt enter:

go

- The **completionState** of the DPR is updated in the **PlDataProcessingRequest** database table.
- The **completionState** is set equal to NULL.

10 If a malformed or mutant job box was deleted, at the **1>** prompt enter:

select completionState from PlDataProcessingRequest where dprId like "<DPR ID>"

- For example:

  1> select completionState from PlDataProcessingRequest where dprId like "MoPGE02#2014193500OPS"

11 If a malformed or mutant job box was deleted, at the **2>** prompt enter:

go

- Value in the **completionState** column of the **PlDataProcessingRequest** table for the specified DPR is displayed:
- For example:

  completionState

  NULL

  (1 row affected)

- Verify that the **completionState** of the DPR is set to NULL.

12 To exit from **isql** at the **1>** prompt enter:

quit

- The connection with the database is discontinued.

13 If a malformed or mutant job box was deleted, request the Production Planner to delete the DPR that maps to the job then recreate the DPR and any subsequent DPRs.

- Only the DPR that had the mutant job box and any DPRs that depend on it have to be deleted. It may not be necessary to delete entire production requests.

Table 14.8-13. Respond to a Condition Where a DPR Was Released But Failed Due to a JIL Failure - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Check whether there is already a job with an identical name in AutoSys	Use procedure in Section 14.3.9
2	Either request the Production Planner to delete the duplicate job using the **Production Request Editor** or delete the job using the Job Management Client tool (if applicable)	Use procedure in Section 14.4.4
3	If there is not a job with an identical name already in AutoSys, observe the characteristics of the job box in **JobScape**	Use procedure in Section 14.3.3
4	**Job Definition** (if the job box is malformed or mutant)	**right-click**
5	**Delete** button (if applicable)	**single-click**
6	**Exit** button (if applicable)	**single-click**
7	Log in to the appropriate PDPS database (if applicable)	Use procedure in Section 14.8.3.3
8	**update PlDataProcessingRequest set completionState="" where dprId like "<DPR ID>"** (if applicable)	**enter text, press Enter**
9	**go** (if applicable)	**enter text, press Enter**
10	**select completionState from PlDataProcessingRequest where dprId like "<DPR ID>"** (if applicable)	**enter text, press Enter**
11	**go** (if applicable)	**enter text, press Enter**
12	**quit** (if applicable)	**enter text, press Enter**
13	Request the Production Planner to delete the DPR that maps to the job then recreate the DPR and any subsequent DPRs (if applicable)	**contact Production Planner**

14.8.3.6 Handle Subscription Server Problems

Handling Subscription Server problems involves determining whether the Subscription Manager is getting notification from Subscription Server after a dynamic granule has been inserted. If no notification is received, the Subscription Manager does not send a ReleaseDprJob request to the Job Management Server to release the affected job(s) into AutoSys. So the job(s) is (are) not processed.

Table 14.8-14 presents (in a condensed format) the steps required to handle Subscription Server problems. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Subscription Server host.

- Examples of Subscription Server host names include **e0ins01, g0ins01, l0ins01**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 Log in to the appropriate Subscription Server database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 14.8.3.3).
- For example:

  x0ins01{cmshared}45: isql -U css_role -S x0ins01_srvr
  Password:
  1> use SubServer
  2> go

- If the Subscription Manager debug log file was previously searched for subscription notification from the Subscription Server concerning dynamic data that the DPR needs, the following types of information will have been discovered (if not for the specific granule required, at least for the datatype):
  - ESDT Information (data type and event).
  - User (i.e., Subscription Manager).
  - Event ID.
- For example:

  03/30/00 11:36:58: Entire message = Subscription Notification:: UR:10:DsShESDTUR:UR:15:DsShSciServerUR:13:[XDC:DSSDSRV]:19:SC:AST_09T.001:5478

  ESDT Information: AST_09T.001:INSERT

  User Information: SubsMgr

  EventID: 805

3 At the **1>** prompt enter:

select * from EcSbSubscription where eventID=<number>

- The **<number>** represents the relevant **eventID** (e.g., from the Subscription Manager debug log file).
- For example:

  1> select * from EcSbSubscription where eventID=805

4 At the **2>** prompt enter:

go

- Contents of the following columns of the **EcSbSubscription** table are displayed:
  - **subID.**
  - **eventID.**

- **userID.**
- **expDate.**
- **object.**

- For example:

```
subID      eventID    userID
       expDate
       object
 ---------- ---------- ----------------------------
       -------------------------
       ------------------------------------------------------------------------------------------------
------------------------------------------------------------------------------------------------------
------------------------------------------------------------------------------------------------------
------------------------------------------------------------------------------------------------------
------------------------------------------------------------------------------------------------------
-------------
        82        805 SubsMgr
             Jan 18 2001 12:00AM
       82
805
7
"SubsMgr"26
"Subscription\x20Notification:"0
""17
"SubscriptionQueue"4
"XDC"2451563
2451928
13
"EcSbGenActio
n":16386
\[9
"UnnamedPL"0
"":32808
\[0
\]\]:16386
\[9
"UnnamedPL"0
"":32808
\[0
\]\]

(1 row affected)
```

- In the example note that **subID** 82 is entered for **eventID** 805 (AST_09T.001:INSERT) and the **userID** is SubsMgr.

5 To exit from **isql** at the **1>** prompt enter:

quit

- The connection with the database is discontinued.

6 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

7 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the log files (e.g., EcDpPrJobMgmt.ALOG, EcDpPrDeletion.ALOG, <DPR number>.ALOG, <DPR number>.err, EcPlSubMgrDebug.log, EcDpPrJobMgmtDebug.log).

8 At the command line prompt enter:

pg <file name>

- The **<file name>** is the name of the .err file for the DPR that inserted data (e.g., ACT#syn1#004130123OPS.err).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

9 Review the log file for an entry indicating that the data were in fact inserted.

- For example:

03/30/00 11:38:02:
DpPrDSSInterface::CheckStatusParameters The request results returned from request.GetStatus() is :
-ReqUpdate[CmdCount(1) ReqSuccess(1)]
03/30/00 11:38:02: Request status indicates success
03/30/00 11:38:02: DpPrDSSInterface::CheckResultParameters The request results returned from request.GetResults() is :
-ReqResults[
--CmdResults[
---Insert results[

DATAFILEGROUP[userDataFile(/usr/ecs/OPS/CUSTOM/pdps/x0spg01/data//DpPrRm/x0spg01_disk/AST_09T#001070419971301230000000) ESDTStatus(1) archiveDescription(None)]
UR(UR:10:DsShESDTUR:UR:15:DsShSciServerUR:13:[XDC:DSSDSRV]:19:SC:AST_09T.001:5478)] CmdSuccess(1)]]
03/30/00 11:38:02: DpPrDSSInterface::RequestOK, The request results returned from this method is :
-ReqResults[

--CmdResults[
---Insert results[

DATAFILEGROUP[userDataFile(/usr/ecs/OPS/CUSTOM/pdps/x0spg01/data//DpPrRm/x0spg01_disk/AST_09T#00107041997130123000000) ESDTStatus(1) archiveDescription(None)]
UR(UR:10:DsShESDTUR:UR:15:DsShSciServerUR:13:[XDC:DSSDSRV]:19:SC:AST_09T.001:5478)] CmdSuccess(1)]]
03/30/00 11:38:02: ~~~~ RPC ID completed
ACT#syn1#004130123OPSAST_09T
03/30/00 11:38:02: DpPrDSSInterface::~DpPrDSSInterface()
03/30/00 11:38:02: inserted
UR:10:DsShESDTUR:UR:15:DsShSciServerUR:13:[XDC:DSSDSRV]:19:SC:AST_09T.001:5478 into ursVector =
ursVector.length()= 1
UR:10:DsShESDTUR:UR:15:DsShSciServerUR:13:[XDC:DSSDSRV]:19:SC:AST_09T.001:5478
03/30/00 11:38:02: About to update PlDataGranule
granuleId = AST_09T#00107041997130123000
03/30/00 11:38:02: Successfully updated PlDataGranule
granuleId = AST_09T#00107041997130123000

10 Access a terminal window logged in to the Subscription Server host.

- Examples of Subscription Server host names include **e0ins01, g0ins01, l0ins01**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

11 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the log files (e.g., EcSbSubServer.ALOG, EcSbSubServerDebug.log).

12 At the command line prompt enter:

pg EcSbSubServer.ALOG

- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

13 Correlate the data insertion time (as specified in the .err file for the DPR that inserted data) with activity in the Subscription Server ALOG file:

- For example, the following entries are in the Subscription Server ALOG file around AST_09T data insertion time of 11:38 (as discovered in the ACT#syn1#004130123OPS.err log file):

Msg: Getting event for EventID = 805 Priority: 0 Time : 03/30/00 11:38:07
PID : 25042:MsgLink :0 meaningfulname :DsDbInterface::Connect()
Msg: Connectted to server: Priority: 2 Time : 03/30/00 11:38:07
PID : 25042:MsgLink :0 meaningfulname :EcSbTriggerEventRequestTriggerTrigger
Msg: Triggering event for EventID = 805 Priority: 0 Time : 03/30/00 11:38:08
PID : 25042:MsgLink :0 meaningfulname :EcSbTriggerEventRequestTriggerTrigger0
Msg: Firing subscriptions for event #805 Priority: 0 Time : 03/30/00 11:38:08
PID : 25042:MsgLink :0 meaningfulname :DsDbInterface::Connect()
Msg: Connectted to server: Priority: 2 Time : 03/30/00 11:38:08
PID : 25042:MsgLink :0 meaningfulname :EcSbSubscriptionExecuteExecute
Msg: No action specified. Priority: 0 Time : 03/30/00 11:38:08
PID : 25042:MsgLink :0 meaningfulname :EcSbSubscriptionExecuteExecute2
Msg: Email notification sent Priority: 0 Time : 03/30/00 11:38:08
PID : 25042:MsgLink :0 meaningfulname :EcSbSubscriptionExecuteExecute
Msg: No action specified. Priority: 0 Time : 03/30/00 11:38:08
PID : 25042:MsgLink :0 meaningfulname :EcSbSubscriptionExecuteExecute2
Msg: Email notification sent Priority: 0 Time : 03/30/00 11:38:08
PID : 25042:MsgLink :0 meaningfulname :EcMpMsgQueueOutInvokeInvoke
Msg: DCE Exception: Object not found (dce / rpc) Priority: 2 Time : 03/30/00 11:38:09
PID : 25042:MsgLink :0 meaningfulname :EcMpMsgQueueOutInvoke2
Msg: Exception: Unknown Priority: 2 Time : 03/30/00 11:38:09
PID : 25042:MsgLink :0 meaningfulname :EcSbGetEventRequestGetEventDataGetEventData
Msg: Getting event for EventID = 8 Priority: 0 Time : 03/30/00 11:38:16
PID : 25042:MsgLink :0 meaningfulname :DsDbInterface::Connect()
Msg: Connectted to server: Priority: 2 Time : 03/30/00 11:38:16
PID : 25042:MsgLink :0 meaningfulname :EcSbTriggerEventRequestTriggerTrigger
Msg: Triggering event for EventID = 8 Priority: 0 Time : 03/30/00 11:38:16
PID : 25042:MsgLink :0 meaningfulname :EcSbTriggerEventRequestTriggerTrigger0
Msg: Firing subscriptions for event #8 Priority: 0 Time : 03/30/00 11:38:16
PID : 25042:MsgLink :0 meaningfulname :DsDbInterface::Connect()
Msg: Connectted to server: Priority: 2 Time : 03/30/00 11:38:16

- In the example note that at 11:38 Subscription Server received Event 805 and recorded a log entry **"Msg: Firing subscriptions for event #805"** but that this did not include any event for SubsMgr for subId 82. Note, in particular:

  PID : 25042:MsgLink :0 meaningfulname :EcMpMsgQueueOutInvokeInvoke Msg: DCE Exception: Object not found (dce / rpc) Priority: 2 Time : 03/30/00 11:38:09

- In the example, it is clear that a file was inserted at 11:38, but that the Subscription Server never sent event notification to the PLS Subscription Manager.
- To exit from **pg** at the **:** prompt enter:

  q

  – The command line prompt is displayed.

14 If a Subscription Server problem has been identified, notify the Operations Controller/System Administrator of the problem.

15 If **no** Subscription Server problem has been identified, return to the procedure that specified handling Subscription Server problems.

- For example, the **Check to Determine Whether the DPR Is Waiting in the AutoSys Queue** procedure (Section 14.8.3.2).

Table 14.8-14. Handle Subscription Server Problems - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	UNIX window (Subscription Server)	**single-click** or use procedure in Section 14.2.1
2	Log in to the appropriate Subscription Server database	Use procedure in Section 14.8.3.3
3	**select * from EcSbSubscription where eventID=<number>**	**enter text, press Enter**
4	**go**	**enter text, press Enter**
5	**quit**	**enter text, press Enter**
6	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
7	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
8	**pg <file name>** (.err log file for the DPR that inserted data)	**enter text, press Enter**
9	Determine whether the data were in fact inserted	**read text**
10	UNIX window (Subscription Server)	**single-click** or use procedure in Section 14.2.1
11	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**

Table 14.8-14. Handle Subscription Server Problems - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
12	**pg EcSbSubServer.ALOG**	**enter text, press Enter**
13	Correlate the data insertion time (as specified in the .err file for the DPR that inserted data) with activity in the Subscription Server ALOG file	**read text**
14	If a Subscription Server problem has been identified, notify the Operations Controller/System Administrator of the problem	**contact Operations Controller**
15	If **no** Subscription Server problem has been identified, return to the procedure that specified handling Subscription Server problems	

14.8.3.7 Respond to a DPR That Was Released But Failed Due to an AutoSys ID Failure

An "AutoSys ID" failure occurs when the Job Management server cannot associate the AutoSys ID with the DPR that was activated. When the Job Management server is started, it reads various tables in the PDPS database that provide the linkage between processing resources and the AutoSys instance. If data is missing from the tables or was added after the Job Management server was started, an "AutoSys ID" failure can occur when any jobs are activated by the Planning Workbench.

Table 14.8-15 presents (in a condensed format) the steps required to respond to a DPR that was released but failed due to an AutoSys ID failure. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the log files (e.g., EcDpPrJobMgmt.ALOG, EcDpPrDeletion.ALOG, <DPR number>.ALOG, <DPR number>.err, EcPlSubMgrDebug.log, EcDpPrJobMgmtDebug.log).

3 At the command line prompt enter:

pg EcDpPrJobMgmt.ALOG

- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

4 Review the Job Management ALOG file for an **"unable to find autosys id"** message.

- For example:

  PID : 7668:MsgLink :0 meaningfulname :DpPrAutosysMapList::GetAutosysIDByDpr
  Msg: unable to find autosys id for dpr: ACT#syn1#004130123TS1 Priority: 2 Time : 03/09/001:33:51
  PID : 7668:MsgLink :9 meaningfulname :CantFindAutoSysId
  Msg: Unable to find autosys id Priority: 2 Time : 03/09/00 11:33:51
  PID : 7668:MsgLink :10 meaningfulname :DpPrSchedulerDObjSmainCreateFailed
  Msg: RqFailed=CreateDpr DprID=ACT#syn1#004130123TS1 Priority: 2 Time : 03/09/00 11:33:51

- To exit from **pg** at the **:** prompt enter:

  q

  – The command line prompt is displayed.

5 If an **"unable to find autosys id"** message was present in the log, log in to the appropriate PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 14.8.3.3).
- For example:

  x0sps02:/usr/ecs/TS1/CUSTOM/[4] > isql -U pdps_role -S x0pls02_srvr
  Password:
  1> use pdps_TS1
  2> go

6 If there is an **"unable to find autosys id"** message in the Job Management ALOG file, at the **1>** prompt enter:

select * from PlResource

- Verify that the **PlResource** table in the PDPS database has at least one entry for a processing string and at least one entry for an AutoSys Instance.

7 At the **2>** prompt enter:

go

- Contents of the following columns of the **PlResource** table are displayed:
  - **resourceId.**
  - **resourceName.**
  - **resourceState.**
  - **resourceType.**
  - **activityTypeId.**
  - **onLineState.**
- For example:

```
resourceId  resourceName
      resourceState resourceType    activityTypeId onLineState
----------- ------------------------------------------------------------
      ------------ -------------- -------------- -----------
        1 x0spg01_disk
              1 DEVICE                  1          1
        2 x0spg01_vc
              1 MACHINE                 1          1
        3 x0spg01
              0 REALCOMP                1          1
        4 x0spg01_string
              0 VIRTUAL                 1          1
        5 FMR
              0 AUTOSYS                 1          1
        6 x0aqg02_disk
              0 DEVICE                  1          1
        7 x0aqg02_vc
              0 MACHINE                 1          1
        8 x0aqg02
              0 REALCOMP                1          1
        9 x0aqg02_string
              0 VIRTUAL                 1          1

(9 rows affected)
```

- In the example resourceId 4 is a string (x0spg01_string) and resourceId 5 is an AutoSys Instance (FMR).

8 If the **PlResource** table in the PDPS database either has no entry for a processing string or no entry for an AutoSys Instance, make a request to the Resource Planner to create the necessary entry(ies).

9 At the **1>** prompt enter:

select * from PlRscString

- Verify that the **PlRscString** table in the PDPS database has at least one entry and that **autosysIdKey** matches the entry in the **PlResource** table.

10 At the **2>** prompt enter:

go

- Contents of the following columns of the **PlRscString** table are displayed:
  - **stringId.**
  - **stringName.**
  - **autosysIdKey.**
- For example:

```
stringId    stringName
      autosysIdKey
----------- ------------------------------------------------------------
      ------------
         4 x0spg01_string
                 5
         9 x0aqg02_string
                 5

(2 rows affected)
```

- In the example the **PlRscString** table in the PDPS database has at least one entry and the **autosysIdKey** for each matches the entry (i.e., 5) in the **PlResource** table.

11 If the **PlRscString** table in the PDPS database either has no entry or if the **autosysIdKey** does not match the entry in the **PlResource** table, make a request to the Resource Planner to make the necessary adjustments.

12 At the **1>** prompt enter:

select * from DpPrAutosysMapList

- Verify that the **DpPrAutosysMapList** table in the PDPS database has at least one entry and that **resourceString** and **autosysIdKey** match the entries in the **PlRscString** table.

13 At the **2>** prompt enter:

go

- Contents of the following columns of the **PlRscString** table are displayed:
  - **resourceString.**
  - **autosysId.**
  - **autosysIdKey.**

- For example:

```
resourceString      autosysId          autosysIdKey
------------------- ------------------ ------------
x0aqg02_string      FMR                5
x0spg01_string      FMR                5

(2 rows affected)
```

- In the example the **DpPrAutosysMapList** table in the PDPS database has at least one entry and the **resourceString** and **autosysIdKey** entries match the entries in the **PlRscString** table.

14 To exit from **isql** at the **1>** prompt enter:

quit

- The connection with the database is discontinued.

15 If the **DpPrAutosysMapList** table in the PDPS database either has no entry or if either the **resourceString** or **autosysIdKey** does not match the corresponding entry in the **PlRscString** table, make a request to the Resource Planner to make the necessary adjustments.

16 If Resource Planning has been done since the Job Management server was brought up, make a request to the Operations Controller/System Administrator to bounce the server.

- The Job Management server reads resource information at start-up; any changes since it was brought up will not have taken effect.

Table 14.8-15. Respond to a DPR That Was Released But Failed Due to an AutoSys ID Failure - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
3	**pg EcDpPrJobMgmt.ALOG**	**enter text, press Enter**
4	Review the Job Management ALOG file for an **"unable to find autosys id"** message	**read text**
5	If an **"unable to find autosys id"** message was present in the log, log in to the appropriate PDPS database	Use procedure in Section 14.8.3.3
6	**select * from PlResource**	**enter text, press Enter**
7	**go**	**enter text, press Enter**

Table 14.8-15. Respond to a DPR That Was Released But Failed Due to an AutoSys ID Failure - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
8	If the **PlResource** table in the PDPS database either has no entry for a processing string or no entry for an AutoSys Instance, make a request to the Resource Planner to create the necessary entry(ies)	**contact Resource Planner**
9	**select * from PlRscString**	**enter text, press Enter**
10	**go**	**enter text, press Enter**
11	If the **PlRscString** table in the PDPS database either has no entry or if the **autosysIdKey** does not match the entry in the **PlResource** table, make a request to the Resource Planner to make the necessary adjustments	**contact Resource Planner**
12	**select * from DpPrAutosysMapList**	**enter text, press Enter**
13	**go**	**enter text, press Enter**
14	**quit**	**enter text, press Enter**
15	If the **DpPrAutosysMapList** table in the PDPS database either has no entry or if either the **resourceString** or **autosysIdKey** does not match the corresponding entry in the **PlRscString** table, make a request to the Resource Planner to make the necessary adjustments	**contact Resource Planner**
16	If Resource Planning has been done since the Job Management server was brought up, make a request to the Operations Controller/System Administrator to bounce the server	**contact Operations Controller**

14.8.3.8 Respond to a DPR That Was Released But Failed Due to Invalid DPR

If a job that was activated does not get started in AutoSys, it may be that Job Management released the DPR but the job failed to start because the DPR was invalid. Table 14.8-16 presents (in a condensed format) the steps required to respond to a DPR that was released but failed due to invalid DPR. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the log files (e.g., EcDpPrJobMgmt.ALOG, EcDpPrDeletion.ALOG, <DPR number>.ALOG, <DPR number>.err, EcPlSubMgrDebug.log, EcDpPrJobMgmtDebug.log).

3 At the command line prompt enter:

pg EcDpPrJobMgmt.ALOG

- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

4 Review the Job Management ALOG file for an **"invalid DPR object"** message.

- For example:

PID : 13169:MsgLink :0 meaningfulname :EnteringCreateDprJob
Msg: Entering CreateDprJob... Priority: 0 Time : 01/22/00 19:01:24
PID : 13169:MsgLink :10 meaningfulname :InvalidDprObject
Msg: invalid DPR object Priority: 2 Time : 01/22/00 19:01:24
PID : 13169:MsgLink :0 meaningfulname :CantFindAutoSysRecord
Msg: Unable to locate autosys record Priority: 2 Time : 01/22/00 19:01:24
PID : 13169:MsgLink :12 meaningfulname
:CreateDprJob:ModAutoSysJobCounterProblem
Msg: ModAutoSysJobCounter problem Priority: 2 Time : 01/22/00 19:01:24
PID : 13169:MsgLink :13 meaningfulname
:DpPrSchedulerDObjSmainCreateFailed
Msg: RqFailed=CreateDpr DprID=ETS#OnDema01093011DEV04 Priority: 2
Time : 01/22/00 19:01:24

- An invalid DPR object is usually caused by missing **Performance** or **Resource** information for the PGE.
- To exit from **pg** at the **:** prompt enter:

q

  – The command line prompt is displayed.

5 Log in to the appropriate PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 14.8.3.3).
- For example:

x0sps02:/usr/ecs/TS1/CUSTOM[4] > isql -U pdps_role -S x0pls02_srvr
Password:
1> use pdps_TS1
2> go

6 To check for an entry for the job (by searching on the **pgeId** column) in the **PlPgePerformance** table in the applicable PDPS database at the **1>** prompt enter:

select * from PlPgePerformance where pgeId like "<PGE ID>"

- For example:

  1> select * from PlPgePerformance where pgeId like "ACT#syn4#001"

7 At the **2>** prompt enter:

go

- Contents of the following columns of the **PlPgePerformance** table are displayed:
  - **pgeId.**
  - **cpuTime.**
  - **pgeElapsedTime.**
  - **dprElapsedTime.**
  - **maxMemory.**
  - **faults.**
  - **swaps.**
  - **blockInputOperation.**
  - **blockOutputOperation.**
  - **runCpuTime.**
  - **runMaxMemory.**
  - **runPgeElapsed.**
  - **runDprElapsed.**
  - **runFaults.**
  - **runSwaps.**
  - **runBlockInOperation.**
  - **runBlockOutOperation.**
  - **sharedMemory.**
  - **runSharedMemory.**
- Example 1:

```
1> select * from PlPgePerformance where pgeId like "ACT#syn4#001"
2> go
 pgeId                cpuTime     pgeElapsedTime dprElapsedTime
      maxMemory           faults      swaps       blockInputOperation
      blockOutputOperation runCpuTime  runMaxMemory       runPgeElapsed
      runDprElapsed runFaults   runSwaps    runBlockInOperation
      runBlockOutOperation sharedMemory       runSharedMemory
 ------------------------ ----------- -------------- --------------
      -------------------- ----------- ----------- -------------------
      -------------------- ----------- -------------------- -------------
      ------------ ----------- ----------- -------------------
```

```
        -------------------- -------------------- --------------------
 ACT#syn4#001                    55          1800          1800
              10.000000       100        100              100
                   100         55          10.000000        1800
            1800        100        100              100
                   100          0.000000          0.000000

(1 row affected)
```

- Example 2:

```
1>  select * from PlPgePerformance where pgeId like "ACT#syn5#001"
2> go
 pgeId                cpuTime     pgeElapsedTime dprElapsedTime
       maxMemory           faults      swaps      blockInputOperation
       blockOutputOperation runCpuTime  runMaxMemory        runPgeElapsed
       runDprElapsed runFaults   runSwaps    runBlockInOperation
       runBlockOutOperation sharedMemory        runSharedMemory
 ------------------------- ----------- -------------- --------------
        -------------------- ----------- ----------- -------------------
        -------------------- ----------- -------------------- -------------
        ------------- ----------- ----------- -------------------
        -------------------- -------------------- --------------------

 ACT#syn5#001                     0            0            0
               0.000000          0          0                0
                     0          0          0.000000           0
               0          0          0                0
                     0          0.000000          0.000000

(1 row affected)
```

8 Observe the entries in the **PlPgePerformance** table to determine whether the non-schedulable PGE(s) has (have) non-zero values in the various columns of the table.

- In Example 1 in Step 7 the entries (for pgeId ACT#syn4#001) are mostly non-zero values whereas all of the Example 2 entries (for pgeID ACT#syn5#001) are zero values.
- There is performance data in the table for Example 1 (pgeID ACT#syn4#001) but none for Example 2 (pgeID ACT#syn5#001).

9 To check for an entry for the job (by searching on the **sswId** column) in the **PlResourceRequirement** table in the applicable PDPS database at the **1>** prompt enter:

select * from PlResourceRequirement where sswId like "<software ID>"

NOTE: The sswId (science software ID) is the first part of the pgeId. For example:

pgeId = ACT#syn4#001
sswId = ACT#syn4

10 At the **2>** prompt enter:

go

- Contents of the following columns of the **PlResourceRequirement** table are displayed:
  - **sswId.**
  - **string.**
  - **numOfCPUs.**
  - **computer.**
  - **diskSpace.**
  - **topLevelShellName.**
  - **exeTarFileDiskSpace.**
  - **mcfName.**
  - **ramSize.**
  - **exeUntarFileDiskSpace.**
  - **exeTarUR.**
  - **pgeId.**
  - **toolkitArchitecture.**
  - **pgeCommands.**
- Example 1:

```
1> select * from PlResourceRequirement where sswId like "ACT#syn4"
2> go
 sswId
       string
       numOfCPUs
       computer
       diskSpace          topLevelShellName
       exeTarFileDiskSpace  mcfName
       ramSize            exeUntarFileDiskSpace
       exeTarUR
       pgeId                toolkitArchitecture  pgeCommands
 --------------------
       ------------------------------------------------------------
       -----------
       ------------------------------------------------------------
       -------------------- ----------------------------
       -------------------- ----------------------------
       -------------------- --------------------
```

```
        ---------------------------------------------------------------------------------------------
-------------------------------------------------------------------------------------------------
-------------------------------------------------------
        ----------------------- ------------------ ----------
 ACT#syn4
        x0spg01_string
                 1
        NULL
                  10.000000 synpge_sgi6n32
                   1.787376 NULL
                   0.000000          1.805250

UR:10:DsShESDTUR:UR:15:DsShSciServerUR:13:[XDC:DSSDSRV]:18:LM:P
GEEXE.001:3839
        ACT#syn4#01          sgi32          1110

(1 row affected)
```

- Example 2:

```
1> select * from PlResourceRequirement where sswId like "ACT#syn5"
2> go
 sswId
        string
        numOfCPUs
        computer
        diskSpace           topLevelShellName
        exeTarFileDiskSpace  mcfName
        ramSize             exeUntarFileDiskSpace
        exeTarUR
        pgeId                  toolkitArchitecture  pgeCommands
 -------------------
        -------------------------------------------------------
        ----------
        -------------------------------------------------------
        ------------------ -------------------------
        ------------------ -------------------------

        ------------------ ------------------
        ---------------------------------------------------------------------------------------------
-------------------------------------------------------------------------------------------------
-------------------------------------------------------
        ----------------------- ------------------ ----------
 ACT#syn5
        NULL
                 0
```

NULL
0.000000 NULL
0.000000 NULL
0.000000 0.000000
NULL
ACT#syn5#01

(1 row affected)

11 Observe the entries in the **PlResourceRequirement** table to determine whether the non-schedulable PGE(s) has (have) non-zero values in the various columns of the table.

- In Example 1 in Step 10 the entries for sswId ACT#syn4 are mostly non-zero values whereas all of the Example 2 entries (for sswID ACT#syn5) are either zero or NULL values.
- There is resource data in the table for sswID ACT#syn4 but none for sswID ACT#syn5.

12 To exit from **isql** at the **1>** prompt enter:

quit

- The connection with the database is discontinued.

13 If entries for the non-schedulable PGE(s) in either the **PlPgePerformance** table or **PlResourceRequirement** table are all zero (0) or NULL, request the SSI&T team to run the SSIT Operational Metadata GUI and enter correct performance values.

14 If entries for the non-schedulable PGE(s) in either the **PlPgePerformance** table or **PlResourceRequirement** table are all zero (0) or NULL, request the Production Planner to delete and re-create the applicable DPRs (after the SSI&T team has run the SSIT Operational Metadata GUI and entered correct performance values).

- Activation should succeed on the next attempt after the corrections have been made.

Table 14.8-16. Respond to a DPR That Was Released But Failed Due to Invalid DPR - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
3	**pg EcDpPrJobMgmt.ALOG**	**enter text, press Enter**
4	Review the Job Management ALOG file for an **"invalid DPR object"** message	**read text**
5	Log in to the appropriate PDPS database	Use procedure in Section 14.8.3.3

Table 14.8-16. Respond to a DPR That Was Released But Failed Due to Invalid DPR - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
6	**select * from PlPgePerformance where pgeId like "<PGE ID>"**	**enter text, press Enter**
7	**go**	**enter text, press Enter**
8	Determine whether the non-schedulable PGE(s) has (have) non-zero values in the various columns of the **PlPgePerformance** table	**read text**
9	**select * from PlResourceRequirement where sswId like "<software ID>"**	**enter text, press Enter**
10	**go**	**enter text, press Enter**
11	Determine whether the non-schedulable PGE(s) has (have) non-zero values in the various columns of the **PlResourceRequirement** table	**read text**
12	**quit**	**enter text, press Enter**
13	If entries for the non-schedulable PGE(s) in either database table are all zero (0) or NULL, request the SSI&T team to enter correct performance values	**contact SSI&T team**
14	Request the Production Planner to delete and re-create the applicable DPRs (when applicable)	**contact Production Planner**

14.8.3.9 Respond to a DPR That Was Released But Failed to Be Received by Job Management Server

If a DPR was released but failed to be received by the Job Management server, the Planning Workbench would think it had successfully activated the DPR(s) but the Job Management Server would not have received the proper notification. Consequently, Job Management would not release the affected job(s) into AutoSys.

Table 14.8-17 presents (in a condensed format) the steps required to respond to a DPR that was released but failed to be received by Job Management server. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the log files (e.g., EcDpPrJobMgmt.ALOG, EcDpPrDeletion.ALOG, <DPR number>.ALOG, <DPR number>.err, EcPlSubMgrDebug.log, EcDpPrJobMgmtDebug.log).

3 At the command line prompt enter:

pg EcDpPrJobMgmtDebug.log

- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

4 Review the EcDpPrJobMgmtDebug.log file for problems with communication.

- To exit from **pg** at the **:** prompt enter:

  q

  – The command line prompt is displayed.

5 Notify the Operations Controller/System Administrator of suspected communication problems.

Table 14.8-17. Respond to a DPR That Was Released But Failed to Be Received by Job Management Server - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
3	**pg EcDpPrJobMgmtDebug.log**	**enter text, press Enter**
4	Determine whether there have been problems with communication	**read text**
5	Notify the Operations Controller/System Administrator of suspected communication problems (if applicable)	**contact Operations Controller**

14.8.4 Respond to a Single DPS Job That Has Failed or Is Hanging

A single DPS job that has failed or is hanging represents one of the following conditions:

- Entire job box is hanging.
- Allocation function is hanging.
- Allocation function has failed.
- Staging function is hanging.

- Staging function has failed.
- Preprocessing job has failed.
- Execution job is hanging.
- Execution job has failed.
- Postprocessing job has failed.
- Insertion function has failed.

Perform the appropriate procedure(s) related to responding to a single DPS job that has failed or is hanging:

- **Handle a Box Job that is Hanging in AutoSys** (Section 14.8.4.1).
- **Handle a Hanging Allocation Function** (Section 14.8.4.2).
- **Run Execution Management Outside of AutoSys** (Section 14.8.4.3).
- **Handle a Failed Allocation Function** (Section 14.8.4.4).
- **Force-Start a Job** (Section 14.8.4.5).
- **Respond to a Restart of a Job That Fails Although All Known Problems Have Been Corrected** (Section 14.8.4.6).
- **Handle a Hanging Staging Function** (Section 14.8.4.7).
  - Perform the **Handle a Hanging Allocation Function** procedure (Section 14.8.4.2).
- **Handle a Failed Staging Function** (Section 14.8.4.8).
- **Clean Up the DPS File Tables** (Section 14.8.4.9).
- **Handle a Failed Preprocessing Job** (Section 14.8.4.10).
- **Handle a Hanging Execution Job** (Section 14.8.4.11).
  - Perform the **Check AutoSys Status** procedure (Section 14.8.2.1).
- **Handle a Failed Execution Job** (Section 14.8.4.12).
  - Perform the **Check AutoSys Status** procedure (Section 14.8.2.1).
- **Respond to Execution Job and/or Postprocessing Job That Have (Has) Failed** (Section 14.8.4.13).
- **Respond to Execution Job That Has Failed and the DPR Has Gone into "Failed-PGE" Processing** (Section 14.8.4.14).
- **Handle a Failed Postprocessing Job** (Section 14.8.4.15).
- **Handle Failure of Both Execution and Postprocessing Jobs** (Section 14.8.4.16).
- **Handle a Failed Insertion Function** (Section 14.8.4.17).
- **Handle a Failed Deallocate Function** (Section 14.8.4.18).

14.8.4.1 Handle a Box Job that is Hanging in AutoSys

This condition is determined by noting that the entire Job Box on **JobScape** (including all three job steps) is the same color, and that color is the one indicated for "Inactive" jobs or "On Hold" jobs. (Typically dark blue is used to indicate both conditions.)

Use the following procedure to handle a box job that is hanging in AutoSys:

1 Check to determine whether the AutoSys Event server or one of the AutoSys clients is down.

- For detailed instructions refer to the **Check AutoSys Status** procedure (Section 14.8.2.1).

2 Check to determine whether a "glitch" could have caused the job to go into AutoSys in an "inactive" state.

- For detailed instructions refer to the **Run Execution Management Outside of AutoSys** procedure (Section 14.8.4.3).

14.8.4.2 Handle a Hanging Allocation Function

A hanging allocation function may be indicated when the Preprocessing job, which had turned green on **JobScape** or **TimeScape** to indicate that it was running, never turns either red (failed) or blue (success). Any of the following conditions may cause the allocation function to hang:

- The Science Data Server (SDSRV) may be waiting for a request to Data Distribution (DDIST) to distribute the PGE tar file, but the file cannot be distributed because Storage Management (STMGT) is down.
- The Science Data Server (SDSRV) may be waiting for a request to Data Distribution (DDIST) to distribute the PGE tar file, but the file cannot be distributed because Storage Management cannot ftp the file to the data directory on the science processor disk.
- The request may be waiting for the archive to stage the file. If there are several other requests in progress, the PGE “acquire” request may have to wait until one or more of the other requests completes.

Table 14.8-18 presents (in a condensed format) the steps required to handle a hanging allocation function. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 At the command line prompt enter:

tail -f /usr/ecs/<MODE>/CUSTOM/logs/<job name>.err

- **<job name>** refers to the name of the AutoSys job for which the .err log file (e.g., ACT#syn1#004130123OPS.err) is to be reviewed.
- If there is no activity or if the job is in a retry loop, the job is hanging.

3 If there is no activity in the .err log, request the Distribution Technician or Operations Controller (as appropriate) to determine the status of the distribution request for the PGE tar file.

- The requester should be EcDpPrEM.
- If the status is "Suspended with Errors," Storage Management servers may have to be bounced, then the Distribution Technician can resume the request.
- If the status is "Staging," the request may be waiting for the archive to stage the file.
  - If there are several other requests in progress, the PGE acquire may have to wait until one or more of them completes.
  - If the request is in the "Staging" state, it may eventually complete.

4 If distribution of the PGE tar file does not resume, at the command line prompt enter:

/usr/ecs/<MODE>/CUSTOM/pdps/<processor>/data/DpPrRm/<processor>_disk

- **<processor>** refers to the Science Processor host (e.g., e0spg01, g0spg01, or l0spg01).
- The <**processor**>**_disk** directory (e.g., g0spg01_disk) or one of its subdirectories is the target directory where the data server puts the inputs needed for processing.

5 If distribution of the PGE tar file does not resume, at the command line prompt enter:

ls -al

- A listing of the files and subdirectories on the science processor disk (for the mode) is displayed.
- The target directory for the PGE tar file is a subdirectory identified by the sswID (science software identification) of the PGE.
  - For example, if the job in AutoSys is **ACT#syn1#004130123OPS** on the science processor disk there should be an **ACT#syn1** subdirectory.

6 If the target directory does not exist, notify the Operations Controller/System Administrator of the problem.

7 If the target directory does exist, at the command line prompt enter:

ftp x0spg01

- For example:

  x0sps02:/usr/ecs/OPS/CUSTOM/logs[109] > ftp x0spg01

- The following type of reply should be received:

  Connected to x0spg01.xdc.ecs.nasa.gov.
  220-NOTICE: ,
  220-********
  220-
  220-THIS U.S. GOVERNMENT COMPUTING SYSTEM IS FOR AUTHORIZED USERS

220-ONLY. ANYONE USING IT IS SUBJECT TO MONITORING AND RECORDING
220-OF ALL KEYSTROKES WITHOUT FURTHER NOTICE. THIS RECORD MAY BE
220-PROVIDED AS EVIDENCE TO LAW ENFORCEMENT OFFICIALS.
220-
220-********
220-
220-
220-
220 x0spg01.xdc.ecs.nasa.gov FTP server ready.
Name (x0spg01:cmshared):

8 If the target directory does exist, at the **Name (<host>:<user ID>):** prompt enter:

[Return/Enter]

- or -

<user ID>

- The following type of reply should be received:

  331 Password required for cmshared.
  Password:

9 If the target directory does exist, at the **Password:** prompt enter:

<password>

- The following type of reply should be received:

  230 User cmshared logged in.
  ftp>

10 If the target directory does exist, at the **ftp>** prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/pdps/<processor>/data/DpPrRm/<processor>_disk/<PGE subdirectory>

- For example:

  ftp> cd /usr/ecs/OPS/CUSTOM/pdps/x0spg01/data/DpPrRm/x0spg01_disk/ACT#syn1

- The following type of reply should be received:

  250 CWD command successful.
  ftp>

11 If the target directory does exist, at the **ftp>** prompt enter:

put <file name>

- For example:

  ftp> put ACT#syn1#004130123OPS.ALOG

- The following type of reply should be received:

  200 PORT command successful.
  150 Opening ASCII mode data connection for 'ACT#syn1#004130123OPS.ALOG'.
  226 Transfer complete.
  local: ACT#syn1#004130123OPS.ALOG remote: ACT#syn1#004130123OPS.ALOG
  13055 bytes sent in 0.034 seconds (3.7e+02 Kbytes/s)
  ftp>

12 If the target directory does exist, at the **ftp>** prompt enter:

quit

- The following type of reply should be received:

  221 Goodbye.

13 If the target directory does exist, at the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/pdps/<processor>/data/DpPrRm/<processor>_disk/<PGE subdirectory>

- For example:

  cd /usr/ecs/OPS/CUSTOM/pdps/x0spg01/data/DpPrRm/x0spg01_disk/ACT#syn1

14 If the target directory does exist, at the command line prompt enter:

ls -al

- The following type of reply should be received:

  total 5760
  drwxrwxr-x 2 cmshared cmshared 65536 Apr 17 10:45 .
  drwxrwxr-x 23 cmshared cmshared 65536 Apr 14 13:17 ..
  -rw-r--r-- 1 cmshared cmshared 12898 Apr 17 10:45 ACT#syn1#004130123OPS.ALOG

- In the examples shown in Steps 7 through 14 the log file **ACT#syn1#004130123OPS.ALOG** was successfully transferred by ftp from **x0sps02 /usr/ecs/OPS/CUSTOM/logs** to **x0spg01 /usr/ecs/OPS/CUSTOM/pdps/x0spg01/data/DpPrRm/x0spg01_disk/ACT#syn1** as verified by changing directory to the **x0spg01_disk/ACT#syn1** subdirectory and performing a long listing of the directory contents.

15 If the ftp fails, notify the Operations Controller/System Administrator to have the ftp problem fixed.

16 If the Allocation job is in a retry loop, ensure that it is possible to connect to the necessary hosts and servers.

- For detailed instructions refer to the **Check Connections to Hosts/Servers** procedure (Section 14.8.1.1).
- Note that the first retry is designed to fail, because the software is retrieving server-side information to refresh the client-side at this point. However, multiple subsequent retries indicate a "retry loop."

17 If no problem has been identified and the job is still hanging, run the Execution Manager in the debugger.

- For detailed instructions refer to the **Run Execution Management Outside of AutoSys** procedure (Section 14.8.4.3).
- Execution Manager (EcDpPrEM) is the DPS program that runs during allocation (Preprocessing).

Table 14.8-18. Handle a Hanging Allocation Function - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
2	**tail -f /usr/ecs/<MODE>/CUSTOM/logs/<job name>.err**	**enter text, press Enter**
3	If there is no activity in the .err log, request the Distribution Technician or Operations Controller (as appropriate) to determine the status of the distribution request for the PGE tar file	**contact Distribution Technician**
4	**/usr/ecs/<MODE>/CUSTOM/pdps/<processor>/data/DpPrRm/<processor>_disk** (if applicable)	**enter text, press Enter**
5	**ls -al** (if applicable)	**enter text, press Enter**
6	If the target directory does not exist, notify the Operations Controller/System Administrator of the problem	**contact Operations Controller**
7	**ftp x0spg01** (if applicable)	**enter text, press Enter**
8	[Return/Enter] or **<user ID>** (as applicable)	**enter text, press Enter**
9	**<password>** (if applicable)	**enter text, press Enter**

Table 14.8-18. Handle a Hanging Allocation Function - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take

10	**cd /usr/ecs/<MODE>/CUSTOM/pdps/<processor>/data/DpPrRm/ <processor>_disk/<PGE subdirectory>** (if applicable)	**enter text, press Enter**
11	**put <file name>** (if applicable)	**enter text, press Enter**
12	**quit** (if applicable)	**enter text, press Enter**
13	**cd /usr/ecs/<MODE>/CUSTOM/pdps/<processor>/data/DpPrRm/ <processor>_disk/<PGE subdirectory>** (if applicable)	**enter text, press Enter**
14	**ls -al** (if applicable)	**enter text, press Enter**
15	If the ftp fails, notify the Operations Controller/System Administrator to have the ftp problem fixed	**contact Operations Controller**
16	If the Allocation job is in a retry loop, ensure that it is possible to connect to the necessary hosts and servers	Use procedure in Section 14.8.1.1
17	Run the Execution Manager in the debugger (if applicable)	Use procedure in Section 14.8.4.3

14.8.4.3 Run Execution Management Outside of AutoSys

To debug problems or to run unit tests, it is sometimes necessary to run Execution Manager (EcDpPrEM) outside of AutoSys.

Table 14.8-19 presents (in a condensed format) the steps required to run Execution Management outside of AutoSys. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 **Single-click** on the name of the job displayed on the **JobScape** GUI.

- The job name is displayed in the **Current Job Name** field in the Control Region of the **JobScape** GUI.

2 **Single-click** on the **Job Console** button on the **JobScape** GUI.

- The **Job Activity Console** GUI (also known as the **Ops Console** GUI) is displayed with information concerning the current job.

3 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

4 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/bin/DPS

5 At the command line prompt enter:

sh

- A Bourne shell is started.

6 At the command line prompt enter:

auto.profile

7 If running in the debugger is desired, at the command line prompt enter:

debugger EcDpPrEM &

- The Execution Manager is brought up in the debugger.

8 At the prompt enter:

<command>

- **<command>** is the command listed in the **Command** field of the **Job Activity Console** GUI (**Ops Console** GUI).
  - The command listed in the **Command** field of the **Job Activity Console** GUI (**Ops Console** GUI) is the command that AutoSys was going to use to run EM.
- For example:

  EcDpPrEM ConfigFile /usr/ecs/OPS/CUSTOM/cfg/EcDpPrEM.CFG ecs_mode OPS –alloc PGE07#1.0#01080596155400

- EcDpPrEM starts running.

Table 14.8-19. Run Execution Management Outside of AutoSys - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	**<job name>** (on **JobScape** GUI)	**single-click**
2	**Job Console** button	**single-click**
3	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
4	**cd /usr/ecs/<MODE>/CUSTOM/bin/DPS**	**enter text, press Enter**

Table 14.8-19. Run Execution Management Outside of AutoSys - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
5	**sh**	**enter text, press Enter**
6	**auto.profile**	**enter text, press Enter**
7	**debugger EcDpPrEM &**	**enter text, press Enter**
8	**<command>** (from **Command** field of the **Job Activity Console** GUI)	**enter text, press Enter**

14.8.4.4 Handle a Failed Allocation Function

If allocation fails, the Preprocessing job turns red on **JobScape** or **TimeScape**.

Table 14.8-20 presents (in a condensed format) the steps required to handle a failed allocation function. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the data processing log files (e.g., EcDpPrJobMgmt.ALOG, EcDpPrDeletion.ALOG).

3 If there is an ALOG file for the job, at the command line prompt enter:

pg <file name>

- **<file name>** refers to the data processing log file to be reviewed (e.g., <DPR number>.ALOG).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.
- If there is no ALOG file for the job, go to Step 12.

4 If there is an ALOG file for the job, review the log file for the following types of error messages.

- **Error: unable to update Machine in Autosys**
- **Unable to determine type of UR**

- An **"Error: unable to update Machine in Autosys"** message means that DPS is unable to access the AutoSys database. The auto.profile in /usr/ecs/<MODE>/CUSTOM/bin/DPS has the wrong settings for AUTOSYS and AUTOUSER parameters.
  - Although they may differ slightly from DAAC to DAAC, the expected values are generally as follows:

    AUTOSYS = /usr/ecs/<MODE>/COTS/autotreeb/autosys
    AUTOUSER = /usr/ecs/<MODE>/COTS/autotreeb/autouser
- A message of **"Unable to determine type of UR"** means that the PGE tar file has not been inserted.
- To exit from **pg** at the **:** prompt enter:

  q
  - The command line prompt is displayed.

5 If an **"Error: unable to update Machine in Autosys"** message was present in the log, notify the Operations Controller/System Administrator to have the auto.profile file corrected.

- Either AutoSys Mkcfg has to be run again or the auto.profile file has to be changed manually.

6 If an **"Unable to determine type of UR"** message was present in the log, log in to the appropriate PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 14.8.3.3).
- For example:

  x0sps02:/usr/ecs/OPS/CUSTOM[4] > isql -U pdps_role –S x0pls02_srvr
  Password:
  1> use pdps
  2> go

7 To check the **PlResourceRequirement** table in the PDPS database for a non-null entry for the field **exeTarUR** at the **1>** prompt enter:

select sswId,exeTarUR from PlResourceRequirement where sswId like "<software ID>"

- For example:

  1> select sswId,exeTarUR from PlResourceRequirement where sswId like "ACT#syn1"

8 At the **2>** prompt enter:

go

- Contents of the following columns of the **PlResourceRequirement** table are displayed:
  - **sswId.**
  - **exeTarUR.**
- Example 1:

```
1> select sswId,exeTarUR from PlResourceRequirement where sswId like
"ACT#syn1"
2> go
 sswId
       exeTarUR
 ----------------
      ------------------------------------------------------------------------------------------------
------------------------------------------------------------------------------------------------
--------------------------------------------------
 ACT#syn1

UR:10:DsShESDTUR:UR:15:DsShSciServerUR:13:[DAC:DSSDSRV]:18:LM:P
GEEXE.001:5521

(1 row affected)
```

- Example 2:

```
1> select sswId,exeTarUR from PlResourceRequirement where sswId like
"AM1Eph#2.0"
2> go
 sswId
       exeTarUR
 ----------------
      ------------------------------------------------------------------------------------------------
------------------------------------------------------------------------------------------------
--------------------------------------------------
 AM1Eph#2.0
       NULL

 (1 row affected)
```

- In Example 1 (where sswId like "ACT#syn1"), there is a value listed for the exeTarUR for ACT#syn1.
- In Example 2 (where sswId like "AM1Eph#2.0"), there is a null value for the exeTarUR for AM1Eph#2.0.

9 To exit from **isql** at the **1>** prompt enter:

quit

- The connection with the database is discontinued.

10 If the value for **exeTarUR** in the **PlResourceRequirement** table in the PDPS database is null, make a request to the SSI&T team to have the EXE Tar File inserted.

- When the EXE Tar File has been inserted, it should be possible to restart the job and have it complete successfully.

11 If the value for **exeTarUR** in the **PlResourceRequirement** table in the PDPS database was null, after the EXE Tar File is inserted restart the job.

- For detailed instructions refer to the **Force-Start a Job** procedure (Section 14.8.4.5).

12 If there is **no** ALOG file for the job, **single-click** on the name of the job displayed on the **JobScape** GUI.

- The job name is displayed in the **Current Job Name** field in the Control Region of the **JobScape** GUI.

13 **Single-click** on the **Job Console** button on the **JobScape** GUI.

- The **Job Activity Console** GUI (**Ops Console** GUI) is displayed with information concerning the current job.

14 Review the entry in the **Exit Code** field on the **Job Activity Console** GUI.

- A value of 122 means that owner of the job does not have "write" permission to the log files directory.

15 Determine the ownership of the job.

- For detailed instructions refer to the **Determine the Ownership of an AutoSys Job** procedure (Section 14.4.1).

16 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

17 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the data processing log files (e.g., EcDpPrJobMgmt.ALOG, EcDpPrDeletion.ALOG).

18 At the command line prompt enter:

ls -al

- A long listing of the logs directory is displayed.
- For example:

```
x0sps02:/usr/ecs/OPS/CUSTOM/logs[137] > ls -al
total 178600
drwxrwxr-x   2 cmops    cmops       3584 Apr 17 12:55 .
drwxrwxr-x  18 cmops    cmops       1024 Oct 11  1999 ..
-rwxrwxrwx   1 cmshared cmshared   12898 Mar 30 11:38
ACT#syn1#004130123OPS.ALOG
-rw-rw-r--   1 cmshared cmshared  105397 Mar 30 11:38
ACT#syn1#004130123OPS.err
-rwxrwxrwx   1 cmshared cmshared   12565 Mar 31 13:24
ACT#syn1#014020000OPS.ALOG
-rw-rw-r--   1 cmshared cmshared   98501 Mar 31 13:24
ACT#syn1#014020000OPS.err
…
```

19 Compare the "write" permission for logs in the logs directory with the owner of the job.

- In the preceding example the user cmshared (and others in the "cmshared" group) has "write" permission for the log files listed.
- If cmshared is the "owner" of the jobs listed in the directory, there should be no problem.

20 If there is a discrepancy between the "write" permission for logs in the logs directory and the owner of the job, report the problem to the Operations Controller/System Administrator for resolution.

21 If there is **no** discrepancy between the "write" permission for logs in the logs directory and the owner of the job, at the command line prompt enter:

pg /var/adm/messages

- The first page of the "messages" file is displayed.
- For example:

```
x0sps02:/usr/ecs/OPS/CUSTOM/logs[139] > pg /var/adm/messages
Apr  4 10:13:39 x0sps02 unix: NFS server x0mss04 not responding still trying
Apr  4 10:13:39 x0sps02 unix: NFS server x0mss04 not responding still trying
Apr  4 10:14:39 x0sps02 unix: NFS server x0mss04 ok
Apr  4 10:14:39 x0sps02 unix: NFS server x0mss04 ok
Apr  4 10:16:37 x0sps02 reboot: rebooted by root
Apr  4 10:16:37 x0sps02 syslogd: going down on signal 15
Apr  4 10:20:04 x0sps02 unix: cpu0: SUNW,UltraSPARC (upaid 6 impl 0x10 ver
0x40 clock 168 MHz)
```

Apr 4 10:20:04 x0sps02 unix: cpu1: SUNW,UltraSPARC (upaid 7 impl 0x10 ver 0x40 clock 168 MHz)

:

- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

22 Review the entries in the message log for a message indicating that the security file EcSeRandomDataFile could not be found.

- To exit from **pg** at the **:** prompt enter:

  q

  – The command line prompt is displayed.

23 If there is a message indicating that that the security file EcSeRandomDataFile could not be found, notify the Operations Controller/System Administrator to have the file created.

- The allocation function should run successfully when the security file has been created.

24 If no problem has been identified, run the Execution Manager in the debugger.

- For detailed instructions refer to the **Run Execution Management Outside of AutoSys** procedure (Section 14.8.4.3).
- Execution Manager (EcDpPrEM) is the DPS program that runs during allocation (Preprocessing).

Table 14.8-20. Handle a Failed Allocation Function - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
3	**pg <file name>** (if applicable)	**enter text, press Enter**
4	Review the log file for error messages	**read text**
5	If an **"Error: unable to update Machine in Autosys"** message was present in the log, notify the Operations Controller/System Administrator to have the auto.profile file corrected	**contact Operations Controller**
6	If an **"Unable to determine type of UR"** message was present in the log, log in to the appropriate PDPS database	Use procedure in Section 14.8.3.3
7	**select sswId,exeTarUR from PlResourceRequirement where sswId like "<software ID>"** (if applicable)	**enter text, press Enter**
8	**go** (if applicable)	**enter text, press Enter**

Table 14.8-20. Handle a Failed Allocation Function - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
9	**quit** (if applicable)	**enter text, press Enter**
10	If the value for **exeTarUR** is null, make a request to the SSI&T team to have the EXE Tar File inserted	**contact SSI&T team**
11	Restart the job (if applicable)	Use procedure in Section 14.8.4.5
12	**<job name>** (**JobScape** GUI) (if applicable)	**single-click**
13	**Job Console** button (if applicable)	**single-click**
14	Review the **Exit Code** (on **Job Activity Console** GUI) (if applicable)	**read text**
15	Determine the ownership of the job (if applicable)	Use procedure in Section 14.4.1
16	UNIX window (Queuing Server) (if applicable)	**single-click** or use procedure in Section 14.2.1
17	**cd /usr/ecs/<MODE>/CUSTOM/logs** (if applicable)	**enter text, press Enter**
18	**ls -al** (if applicable)	**enter text, press Enter**
19	Compare the "write" permission for logs in the logs directory with the owner of the job (if applicable)	**read text**
20	Report the problem to the Operations Controller/System Administrator for resolution (if applicable)	**contact Operations Controller**
21	**pg /var/adm/messages** (if applicable)	**enter text, press Enter**
22	Determine whether the security file EcSeRandomDataFile could/could not be found	**read text**
23	Notify the Operations Controller/System Administrator to have the file created (if applicable)	**contact Operations Controller**
24	Run the Execution Manager in the debugger (if applicable)	Use procedure in Section 14.8.4.3

14.8.4.5 Force-Start a Job

To solve or recover from many problems it is necessary to restart the job by force-starting it.

Guidelines for Force-Starting Jobs:

- Force-start command jobs (e.g., preprocessing, postprocessing) only; do not attempt to force-start a box job.
  - The software does not support box job force-starts. (Although it may work fine in some cases, it can cause the PDPS database to get out of sync and prevent the DPR (and possibly other DPRs) from running successfully.)

  - If a box job were force-started, the allocation function would run again. Allocation might choose a different science processor than was chosen the previous time the job ran. Using a different science processor could cause failure of the job.
  - After each job (and often within each job) the state of the DPR is tracked in various tables in the database. Box job force-starts lack the code needed to check the state of the box and perform the cleanup activities necessary for starting over.
- Ensure that the GUI has refreshed and the job to be force-started is not already running before trying to force-start a job. (If a job is already running, it should not be force-started.)
  - If using AutoSys/AutoXpert 3.4.2 or a later version, it should not be possible to force-start jobs that are already running.
  - If you need to restart a job that is still running, you need to kill it via the AutoSys menu (the same one that has the Force Start choice) and then Force Start it.
- If any command job other than execution fails, force-start the job that failed only. Do not force start any preceding or succeeding jobs in the box.
- If execution fails, it is not safe to restart it unless the postprocessing job had been put on hold and the failure was detected before postprocessing started running.
- If execution fails and the failure was not detected before postprocessing started running, the DPR must run to completion as a failed PGE and the DPR must be deleted and recreated.

Table 14.8-21 presents (in a condensed format) the steps required to force-start a job. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 If the **AutoSys GUI Control Panel** is not already being displayed, launch the **AutoSys GUI Control Panel** (refer to Section 14.2.2).

- The **AutoSys GUI Control Panel** is displayed.

2 If the AutoXpert **JobScape** or **TimeScape** GUI is not already in operation, **single-click** on the **JobScape** or **TimeScape** button on the **AutoSys GUI Control Panel**.

- The **JobScape** GUI page or **TimeScape** GUI page is presented.

3 **Place** the mouse cursor on the applicable job symbol in the AutoXpert **JobScape** or **TimeScape** GUI, **single-click** and **hold** with the **right** mouse button, **move** the mouse cursor to **Force Start Job** (highlighting it), then **release** the mouse button.

- Pop-up menu appears with the options **<job name>, Show Children, Show All Descendants, Hide All Descendants. Show Job Arrows, Hide Job Arrows, Show Box Arrows, Hide Box Arrows, Job Definition, View Dependencies, Set Simulation, Overrides** [grayed out], **Start Job, Kill Job, Force Start Job, On Hold, Off Hold, On Ice, Off Ice.**

- Select **Force Start Job** from the pop-up menu.
  - The job symbol in AutoXpert **JobScape** or **TimeScape** GUI should turn green ("starting") within a short period of time.

4 If the job symbol in AutoXpert **JobScape** or **TimeScape** GUI does **not** turn green ("starting") within a short period of time, return to Step 3.

Table 14.8-21. Force-Start a Job - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel** (if necessary)	Use procedure in Section 14.2.2
2	**JobScape** button or **TimeScape** button (if necessary)	**single-click**
3	**Force Start Job**	**right-click**
4	Return to Step 3 (if necessary)	

14.8.4.6 Respond to a Restart of a Job That Fails Although All Known Problems Have Been Corrected

If a job fails to restart although all known problems have been corrected, the retry information in the DpPrRpcID database table may not be synchronized between servers.

Table 14.8-22 presents (in a condensed format) the steps required to respond to a restart of a job that fails although all known problems have been corrected. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Log in to the appropriate PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 14.8.3.3).
- For example:

  x0sps02:/usr/ecs/OPS/CUSTOM[4] > isql -U pdps_role -S x0pls02_srvr
  Password:
  1> use pdps
  2> go

2 To examine the **readableTag** column in the **DpPrRpcID** table of the applicable PDPS database (to identify the out-of-sync entry) at the **1>** prompt enter:

select * from DpPrRpcID

3 At the **2>** prompt enter:

go

- Contents of the following columns of the **DpPrRpcID** table are displayed:
  - **readableTag.**
  - **object.**

4 Observe the entries in the **DpPrRpcID** table to identify the retry information that is not synchronized between servers.

5 At the **1>** prompt enter:

delete * from DpPrRpcID where readableTag like "<readable tag>"

- Delete the out-of-sync entry (retry information) from the **DpPrRpcID** table.

6 At the **2>** prompt enter:

go

- The out-of sync entry in the **DpPrRpcID** table is deleted.

7 Restart the job.

- For detailed instructions refer to the **Force-Start a Job** procedure (Section 14.8.4.5).

Table 14.8-22. Respond to a Restart of a Job That Fails Although All Known Problems Have Been Corrected - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Log in to the appropriate PDPS database	Use procedure in Section 14.8.3.3
2	**select * from DpPrRpcID**	**enter text, press Enter**
3	**go**	**enter text, press Enter**
4	Identify the retry information that is not synchronized between servers	**read text**
5	**delete * from DpPrRpcID where readableTag like "<readable tag>"**	**enter text, press Enter**
6	**go**	**enter text, press Enter**
7	Restart the job	Use procedure in Section 14.8.4.5

14.8.4.7 Handle a Hanging Staging Function

The problems that cause a staging function to hang are generally the same as those that cause an allocation function to hang. Likely causes include the following problems:

- The Science Data Server (SDSRV) may be waiting for a request to Data Distribution (DDIST) to distribute the PGE tar file, but the file cannot be distributed because Storage Management (STMGT) is down.

- The Science Data Server (SDSRV) may be waiting for a request to Data Distribution (DDIST) to distribute the PGE tar file, but the file cannot be distributed because Storage Management cannot ftp the file to the data directory on the science processor disk.
- The request may be waiting for the archive to stage the file(s). If there are several other requests in progress, the "acquire" request may have to wait until one or more of the other requests completes.

Perform the **Handle a Hanging Allocation Function** procedure (Section 14.8.4.2).

14.8.4.8 Handle a Failed Staging Function

If staging fails, the Preprocessing job turns red on **JobScape** or **TimeScape**.

Table 14.8-23 presents (in a condensed format) the steps required to handle a failed staging function. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.
- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the data processing log files (e.g., EcDpPrJobMgmt.ALOG, EcDpPrDeletion.ALOG).

3 If there is an ALOG file for the job, at the command line prompt enter:

pg <file name>

- **<file name>** refers to the data processing log file to be reviewed (e.g., <DPR number>.ALOG).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **more**) can be used to review the log file.

4 If there is an ALOG file for the job, review the log file for the following types of error messages.
- **ESDT Acquire Failed for UR....**
  - A message of **"ESDT Acquire Failed for UR...."** means that SDSRV had trouble processing one of the acquire requests.

- **found no meta data entry for UR....**
  - A message of **"found no meta data entry for UR...."** means that for some reason the tables that DPS uses to keep track of files on the local disks are no longer synchronized (have gotten out of sync).
- **GetESDTReferenceFailed**
  - A message of **"GetESDTReferenceFailed"** means that the ESDT Reference could not be created for the UR displayed in the message containing "Inside AcquireOneGranuleToSDSRV".
  - It is likely that the granule that is attempting to stage was **not** inserted into the Data Server or has been deleted.
- Database deadlock error messages.
  - A **deadlock problem** accessing the PDPS database is indicated by the following type of message:

    SybaseErrorCode1 =1205;SybaseErrorMesage1 ="g0pls02_srvr"
    SybaseErrorCode2 =13;SybaseErrorMesage2 ="40001"
    Priority : 0 Time : 10/19/99 01:53:48
    PID : 19909:MsgLink :0 meaningfulname :EcPoErrorA1
    Msg: EcPoError::HandleRWError RogueWaveDBToolsError#
    RogueWaveDBToolsErrorCode =21;RogueWaveDBToolsErrorMesage
    ="[NOREADER] This object cannot support readers"
    Priority : 0 Time : 10/19/99 01:53:48
    PID : 19909:MsgLink :0 meaningfulname
    :DpPrDbIF::SelectAndReadColumns
    Msg: SelectAndReadColumns failed due to [NOREADER] This object cannot support readers Priority : 2 Time : 10/19/99 01:53:48

  - While most deadlock problems are retried, deadlocks on the reading of tables (though rare) currently cannot be retried.
  - The error in the example could indicate that a “read” deadlock occurred.
- To exit from **pg** at the **:** prompt enter:

  q

  - The command line prompt is displayed.

5 If an **"ESDT Acquire Failed for UR...."** message was present in the log, restart the job.

- For detailed instructions refer to the **Force-Start a Job** procedure (Section 14.8.4.5).
- The job should restart and run successfully.

6 If a **"found no meta data entry for UR...."** message was present in the log, restart the job.

- For detailed instructions refer to the **Force-Start a Job** procedure (Section 14.8.4.5).

7 If a **"found no meta data entry for UR...."** message was present in the log and restarting the job was not successful, clean up the DPS file tables.

- For detailed instructions refer to the **Clean Up the DPS File Tables** procedure (Section 14.8.4.9).

8 If a **"found no meta data entry for UR...."** message was present in the log and the DPS file tables have been cleaned up, restart the job.

- For detailed instructions refer to the **Force-Start a Job** procedure (Section 14.8.4.5).
- The job should restart and run successfully.

9 If a **"GetESDTReferenceFailed"** message was present in the log, notify the Production Planner to take the following actions:

- Request to have the granule re-inserted.
- Delete the affected DPR(s).
- Re-create the affected DPR(s).

10 If a message indicating a "read" deadlock was present in the log, restart the job.

- A "read" deadlock is shown in the example in Step 4.
- For detailed instructions refer to the **Force-Start a Job** procedure (Section 14.8.4.5).
- The job should restart and run successfully.

11 If no problem has been identified, run the Execution Manager in the debugger.

- For detailed instructions refer to the **Run Execution Management Outside of AutoSys** procedure (Section 14.8.4.3).
- Execution Manager (EcDpPrEM) is the DPS program that runs during staging (Preprocessing).

Table 14.8-23. Handle a Failed Staging Function - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
3	**pg <file name>**	**enter text, press Enter**
4	Identify error messages in the ALOG file for the job (if applicable)	**read text**
5	If an **"ESDT Acquire Failed for UR...."** message was present in the log, restart the job	Use procedure in Section 14.8.4.5
6	If a **"found no meta data entry for UR...."** message was present in the log, restart the job	Use procedure in Section 14.8.4.5
7	If a **"found no meta data entry for UR...."** message was present in the log and restarting the job was not successful, clean up the DPS file tables	Use procedure in Section 14.8.4.9

Table 14.8-23. Handle a Failed Staging Function - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
8	If a **"found no meta data entry for UR...."** message was present in the log and the DPS file tables have been cleaned up, restart the job	Use procedure in Section 14.8.4.5
9	If a **"GetESDTReferenceFailed"** message was present in the log, notify the Production Planner to request to have the granule re-inserted, delete the affected DPR(s), and re-create the affected DPR(s)	**contact Production Planner**
10	If a message indicating a “read” deadlock was present in the log, restart the job	Use procedure in Section 14.8.4.5
11	If no problem has been identified, run the Execution Manager in the debugger	Use procedure in Section 14.8.4.3

14.8.4.9 Clean Up the DPS File Tables

To solve or recover from some problems, it is necessary to clean up the DPS file tables in the applicable PDPS database. The DPS file tables are as follows:

- **DpPrFile** - a list of staged files and metadata files.
- **DpPrGranuleLocation** - the location of the staged files.
- **DpPrDiskAllocation** - how much disk space the files require.

The offending entries have to be deleted from the tables. The "offending entries" are found using a universalReference (for DpPrFile), a granuleId (for DpPrGranuleLocation), or a fileName (for DpPrDiskAllocation).

Table 14.8-24 presents (in a condensed format) the steps required to clean up the DPS file tables. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Log in to the appropriate PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 14.8.3.3).
- For example:

  x0sps02:/usr/ecs/OPS/CUSTOM[4] > isql -U pdps_role -S x0pls02_srvr
  Password:
  1> use pdps
  2> go

2 To determine what granules affect the job at the **1>** prompt enter:

select dprId,granuleId from PlDprData where dprId like "<DPR ID>"

- For example:

  1> select dprId,granuleId from PlDprData where dprId like "ACT#syn1#014020000OPS"

3 At the **2>** prompt enter:

go

- Contents of the following columns of the **PlDprData** table for the specified DPR are displayed:
  - **dprId.**
  - **granuleId.**
- For example:

```
dprId
      granuleId
 ----------------------------
      ------------------------------------------------------------------------------------------------------------
 --------------------------------
 ACT#syn1#014020000OPS
      AST_09T#00102141998020000000
 ACT#syn1#014020000OPS
      AST_ANC#001L1004
 ACT#syn1#014020000OPS
      AST_L1B#00102141998020000000

 (3 rows affected)
```

4 Observe the entries in the **granuleId** column of the **PlDprData** table to determine what granules affect the job.

- In the preceding example the following three granules affect the job:
  - **AST_09T#00102141998020000000**
  - **AST_ANC#001L1004**
  - **AST_L1B#00102141998020000000**

5 To locate the correct entries in the **DpPrGranuleLocation** table at the **1>** prompt enter:

select * from DpPrGranuleLocation where granuleId like "<granule ID>"

- For example:

  1> select * from DpPrGranuleLocation where granuleId like "AST_L1B#00102141998020000000"

6 At the **2>** prompt enter:

go

- Contents of the following columns of the **DpPrGranuleLocation** table for the specified granule are displayed:
  - **granuleId.**
  - **machineId.**
  - **stageState.**
  - **dprId.**
- For example:

```
granuleId
machineId
stageState  dprId

------------------------------------------------------------------------------------------------------
---------------------------------
-------------------------------------------------------------
---------- ----------------------------

AST_L1B#00102141998020000000
     x0spg01
          2 ACT#syn1#014020000OPS

 (1 row affected)
```

7 Repeat Steps 5 and 6 as necessary to identify the correct entries in the **DpPrGranuleLocation** table for all granules that affect the job (as determined in Step 4).

8 At the **1>** prompt enter:

delete * from DpPrGranuleLocation where granuleId like "<granule ID>"

- For example:

  1> delete * from DpPrGranuleLocation where granuleId like "AST_L1B#00102141998020000000"

- Delete from the **DpPrGranuleLocation** table the entries that match the **granuleId** entries from the **PlDprData** table.

9 At the **2>** prompt enter:

go

- Entries in the **DpPrGranuleLocation** table related to the specified **granuleId** are deleted.

10 At the **1>** prompt enter:

select * from DpPrGranuleLocation where granuleId like "<granule ID>"

- For example:

  1> select * from DpPrGranuleLocation where granuleId like "AST_L1B#00102141998020000000"

- Granules that affect the job were determined in Step 4.

11 At the **2>** prompt enter:

go

- There should be no entries in the **DpPrGranuleLocation** table related to the specified **granuleId**

12 Repeat Steps 10 and 11 as necessary to verify that all applicable entries have been deleted from the **DpPrGranuleLocation** table.

13 To locate the corresponding entries in the **PlDataGranuleShort** table at the **1>** prompt enter:

select granuleId,dataTypeId,universalReference from PlDataGranuleShort where granuleId like "<granule ID>"

- For example:

  1> select granuleId,dataTypeId,universalReference from PlDataGranuleShort where granuleId like "AST_L1B#00102141998020000000"

- Use the **granuleId** entries from the **PlDprData** table (Step 4) to locate the corresponding entries in the **PlDataGranuleShort** table.

14 At the **2>** prompt enter:

go

- Contents of the following columns of the **PlDataGranuleShort** table for the specified granule are displayed:
  - **granuleId.**
  - **dataTypeId.**
  - **universalReference.**
- For example:

  granuleId
  dataTypeId
  universalReference

AST_L1B#00102141998020000000
AST_L1B#001

UR:10:DsShESDTUR:UR:15:DsShSciServerUR:13:[XDC:DSSDSRV]:19:SC:AST_L1B.001:5528

(1 row affected)

15 Repeat Steps 13 and 14 as necessary to identify the correct entries in the **PlDataGranuleShort** table for all granules that affect the job (as determined in Step 4).

16 To locate the corresponding **fileName** entries in the **DpPrFile** table at the **1>** prompt enter:

select fileName,universalReference from DpPrFile where universalReference like "<Universal Reference>"

- For example:

  1> select fileName,universalReference from DpPrFile where universalReference like "%AST_L1B.001:5528"

- The use of a wild card (as shown by the use of the percent sign in the example) is recommended because isql will not provide a reliable search on a **universalReference**.
- Use the **universalReference** entries from the **PlDataGranuleShort** table to identify corresponding **fileName** entries in the **DpPrFile** table.

17 At the **2>** prompt enter:

go

- Contents of the following columns of the **DpPrFile** table for the specified UR are displayed:
  - **fileName.**
  - **universalReference.**
- For example:

  fileName
  universalReference

AST_L1B#00102141998020000000.hdf

UR:10:DsShESDTUR:UR:15:DsShSciServerUR:13:[XDC:DSSDSRV]:19:SC:AST_L1B.001:5528

AST_L1B#001021419980200000000000.met

UR:10:DsShESDTUR:UR:15:DsShSciServerUR:13:[XDC:DSSDSRV]:19:SC:AST_L1B.001:5528

(2 rows affected)

- There should be two **fileName** entries in the **DpPrFile** table (i.e., one **.hdf** and one **.met** file) for each **uinversalReference**.

18 Repeat Steps 16 and 17 as necessary to identify the correct **fileName** entries in the **DpPrFile** table for all URs that affect the job (as determined in Step 14).

19 At the **1>** prompt enter:

delete * from DpPrFile where fileName like "<file name>"

- For example:

  1> delete * from DpPrFile where fileName like "AST_L1B#00102141998020000000%"

- Delete from the **DpPrFile** table the entries that match the **universalReference** entries from the **PlDataGranuleShort** table.
- In the example in Step 17 the .hdf and .met **fileName** entries are of different lengths; consequently, the shorter of the two (the .hdf **fileName**) has been used with the wild card to specify which files are to be deleted.

20 At the **2>** prompt enter:

go

- Entries in the **DpPrFile** table related to the specified file name are deleted.

21 Repeat Steps 19 and 20 as necessary to delete the entries in the **DpPrFile** table for all URs that affect the job (as determined in Step 14).

22 To locate the corresponding **fileName** entries in the **DpPrFile** table at the **1>** prompt enter:

select fileName,universalReference from DpPrFile where universalReference like "<Universal Reference>"

- For example:

  1> select fileName,universalReference from DpPrFile where universalReference like "%AST_L1B.001:5528"

- URs that affect the job were determined in Step 14.

23 At the **2>** prompt enter:

go

- There should be no entries in the **DpPrFile** table related to the relevant **file name**.

24 Repeat Steps 22 and 23 as necessary to verify that all applicable entries have been deleted from the **DpPrFile** table.

25 To locate the correct entries in the **DpPrDiskAllocation** table at the **1>** prompt enter:

select * from DpPrDiskAllocation where fileName like "<file name>"

- For example:

  1> select * from DpPrDiskAllocation where fileName like "AST_L1B#00102141998020000000%"

- Use the **fileName** entries from the **DpPrFile** table to locate the correct entries in the **DpPrDiskAllocation** table.

26 At the **2>** prompt enter:

go

- Contents of the following columns of the **DpPrDiskAllocation** table for the specified file name are displayed:
  - **diskAllocationId.**
  - **computerId.**
  - **diskPartitionId.**
  - **diskAllocationType.**
  - **path.**
  - **diskAllocationSize.**
  - **diskAllocationUser.**
  - **diskAllocationActual.**
  - **fileName.**
- For example:

```
diskAllocationId computerId  diskPartitionId diskAllocationType
      path
      diskAllocationSize   diskAllocationUser
      diskAllocationActual
      fileName
--------------- ----------- -------------- ------------------
     ------------------------------------------------------------
     ------------------- ----------------------------
     -------------------
     ------------------------------------------------------------
      2001957         3            1              1
```

/x0spg01_disk/
50.085064 ACT#syn1#014020000OPS
50.085064
AST_L1B#00102141998020000000.hdf

(1 row affected)

27 Repeat Steps 25 and 26 as necessary to identify the correct **fileName** entries to be deleted from the **DpPrDiskAllocation** table (as determined in Step 17).

28 At the **1>** prompt enter:

delete * from DpPrDiskAllocation where fileName like "<file name>"

- For example:

  1> delete * from DpPrDiskAllocation where fileName like "AST_L1B#00102141998020000000%"

- Delete from the **DpPrDiskAllocation** table the entries that match the **fileName** entries from the **DpPrFile** table.

29 At the **2>** prompt enter:

go

- Entries in the **DpPrDiskAllocation** table related to the specified file name are deleted.

30 Repeat Steps 28 and 29 as necessary to delete the entries in the **DpPrDiskAllocation** table for all **fileName** entries that affect the job (as determined in Step 17).

31 At the **1>** prompt enter:

select * from DpPrDiskAllocation where fileName like "<file name>"

- For example:

  1> select * from DpPrDiskAllocation where fileName like "AST_L1B#00102141998020000000%"

- Use the **fileName** entries from the **DpPrFile** table to locate the correct entries in the **DpPrDiskAllocation** table.
- File names that affect the job were determined in Step 17.

32 At the **2>** prompt enter:

go

- There should be no entries in the **DpPrDiskAllocation** table related to the relevant **file name**.

33 Repeat Steps 31 and 32 as necessary to verify that all applicable entries have been deleted from the **DpPrDiskAllocation** table.

Table 14.8-24. Clean Up the DPS File Tables - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Log in to the appropriate PDPS database	Use procedure in Section 14.8.3.3
2	**select dprId,granuleId from PlDprData where dprId like "<DPR ID>"**	**enter text, press Enter**
3	**go**	**enter text, press Enter**
4	Determine what granules affect the job	**read text**
5	**select * from DpPrGranuleLocation where granuleId like "<granule ID>"**	**enter text, press Enter**
6	**go**	**enter text, press Enter**
7	Repeat Steps 5 and 6 as necessary to identify the correct entries in the **DpPrGranuleLocation** table for all granules that affect the job	
8	**delete * from DpPrGranuleLocation where granuleId like "<granule ID>"**	**enter text, press Enter**
9	**go**	**enter text, press Enter**
10	**select * from DpPrGranuleLocation where granuleId like "<granule ID>"**	**enter text, press Enter**
11	**go**	**enter text, press Enter**
12	Repeat Steps 10 and 11 as necessary to verify that all applicable entries have been deleted from the **DpPrGranuleLocation** table	
13	**select granuleId,dataTypeId,universalReference from PlDataGranuleShort where granuleId like "<granule ID>"**	**enter text, press Enter**
14	**go**	**enter text, press Enter**
15	Repeat Steps 13 and 14 as necessary to identify the correct entries in the **PlDataGranuleShort** table for all granules that affect the job	
16	**select fileName,universalReference from DpPrFile where universalReference like "<Universal Reference>"**	**enter text, press Enter**
17	**go**	**enter text, press Enter**
18	Repeat Steps 16 and 17 as necessary to identify the correct **fileName** entries in the **DpPrFile** table for all URs that affect the job	
19	**delete * from DpPrFile where fileName like "<file name>"**	**enter text, press Enter**
20	**go**	**enter text, press Enter**

Table 14.8-24. Clean Up the DPS File Tables - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take

21	Repeat Steps 19 and 20 as necessary to delete the entries in the **DpPrFile** table for all URs that affect the job	
22	**select fileName,universalReference from DpPrFile where universalReference like "<Universal Reference>"**	**enter text, press Enter**
23	**go**	**enter text, press Enter**
24	Repeat Steps 22 and 23 as necessary to verify that all applicable entries have been deleted from the **DpPrFile** table	
25	**select * from DpPrDiskAllocation where fileName like "<file name>"**	**enter text, press Enter**
26	**go**	**enter text, press Enter**
27	Repeat Steps 25 and 26 as necessary to identify the correct **fileName** entries to be deleted from the **DpPrDiskAllocation** table	
28	**delete * from DpPrDiskAllocation where fileName like "<file name>"**	**enter text, press Enter**
29	**go**	**enter text, press Enter**
30	Repeat Steps 28 and 29 as necessary to delete the entries in the **DpPrDiskAllocation** table for all **fileName** entries that affect the job	
31	**select * from DpPrDiskAllocation where fileName like "<file name>"**	**enter text, press Enter**
32	**go**	**enter text, press Enter**
33	Repeat Steps 31 and 32 as necessary to verify that all applicable entries have been deleted from the **DpPrDiskAllocation** table	

14.8.4.10 Handle a Failed Preprocessing Job

If preprocessing fails, the Preprocessing job turns red on **JobScape** or **TimeScape**.

Table 14.8-25 presents (in a condensed format) the steps required to handle a failed preprocessing job. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the data processing log files (e.g., EcDpPrJobMgmt.ALOG, EcDpPrDeletion.ALOG).

3 If there is an ALOG file for the job, at the command line prompt enter:

pg <file name>.ALOG

- **<file name>** refers to the data processing log file to be reviewed (e.g., <DPR number>.ALOG).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

4 If there is an ALOG file for the job, review the log file for the following types of error messages:

- **NOFREECPUS**
  - A message of **"NOFREECPUS"** means that all of the Science Processor CPUs are busy and the Preprocessing job went through its maximum number of retries to find an available CPU, possibly for one of the following reasons: (1) PGEs are taking longer to run than expected. DPS plans for execution times specified during SSIT, and if those times are exceeded by a large margin (by an executing PGE) it is possible that a PGE that is "ready to run" will be CPU-starved. (2) Somebody has scheduled a PGE that takes up more CPUs than will ever be available. If a PGE is defined (at SSIT) to require five CPUs and there are only three on any given machine, the job will never succeed.
- **No ads returned when searching IOS database for....**
  - A message similar to the example that follows means that PDPS contacted the Advertising Service (IOS) and Advertising could not find an entry for the specified ESDT in its database.

    ***** No ads returned when searching IOS database for {ESDT Name}Getqueryableparameters**

- To exit from **pg** at the **:** prompt enter:

  q

  - The command line prompt is displayed.

5 If a **"NOFREECPUS"** message was present in the log, restart the job.

- For detailed instructions refer to the **Force-Start a Job** procedure (Section 14.8.4.5).

6 If a **"No ads returned when searching IOS database for...."** message was present in the log, notify the Science Data Specialist or whoever else installs ESDTs to verify that the corresponding ESDT(s) has/have been properly installed.

- Advertising receives information concerning ESDTs when they are installed in Science Data Server.
- Advertising puts entries in its database for each ESDT installed and lists the UR of the Data Server (the server UR) that provides services for the ESDT (inserts/acquires/searches).
- If Advertising cannot find an entry for the ESDT in question, one of the following conditions is likely:
  - The ESDT was not installed.
  - The ESDT was not installed properly.

7 If a **"No ads returned when searching IOS database for...."** message was present in the log, after the problem has been corrected restart the job.

- For detailed instructions refer to the **Force-Start a Job** procedure (Section 14.8.4.5).

8 If neither of the preceding problems was mentioned in the log file, at the command line prompt enter:

pg <file name>.err

- **<file name>** refers to the data processing log file to be reviewed (e.g., <DPR number>.err).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

9 If using either the **pg** or **more** command, at the **:** prompt enter:

/-prep

- The start of the Preprocessing job log is displayed.
- The following type of entry indicates the start of the Preprocessing job:

  Command used => 'EcDpPrEM ConfigFile /usr/ecs/OPS/CUSTOM/cfg/EcDpPrEM.CFG ecs_mode OPS -preproc AM1Eph#30012312200OPS' START_TIME: 03/30/00 10:50:32

  - The **–preproc** indicates "Preprocessing."

10 Review the Preprocessing portion of the .err log file for the following type of error message:

"rm: Unable to remove directory <long directory pathname>: File exists"

- The **"rm: Unable to remove directory <long directory pathname>: File exists"** type of error message means that there is a permission problem and the Execution Manager job could **not** delete the files within the directory.

- The <**long directory pathname**> will be similar to the following example:

  /usr/ecs/OPS/CUSTOM/pdps/x0spg01/data/DpPrRm/x0spg01_disk/
  AM1Eph#30001/AM1Eph#30012312200OPS_x0spg01/

- To exit from **pg** or **more** at the **:** prompt enter:

  q

  – The command line prompt is displayed.

11 If the **"rm: Unable to remove directory <long directory pathname>: File exists"** type of message was present in the Preprocessing portion of the .err file, at the command line prompt enter:

cd <long directory pathname>

12 At the command line prompt enter:

ls –al

- A long listing of the directory is displayed, for example:

  x0sps02:/usr/ecs/OPS/CUSTOM/pdps/x0spg01/data/DpPrRm/x0spg01_disk/
  AM1Eph#30001/AM1Eph#30012312200OPS_x0spg01[82] > ls -al

  total 3712
  drwxr-xr-x 2 cmshared cmshared 65536 Apr 18 11:00 .
  drwxrwxr-x 3 cmshared cmshared 65536 Apr 18 10:59 ..
  -rw-rw-r-- 1 cmshared cmshared 5384 Apr 18 10:59 AM1ATTH0#001.MCF
  -rw-rw-r-- 1 cmshared cmshared 5385 Apr 18 10:59 AM1ATTN0#001.MCF
  -rw-rw-r-- 1 cmshared cmshared 7183 Apr 18 10:59 AM1EPHH0#001.MCF
  -rw-rw-r-- 1 cmshared cmshared 7183 Apr 18 10:59 AM1EPHN0#001.MCF
  -rw-r--r-- 1 cmshared cmshared 4437 Apr 18 11:00
  AM1Eph#30012312200OPS.Log
  -rw-rw-r-- 1 cmshared cmshared 31764 Apr 18 11:00
  AM1Eph#30012312200OPS.Pcf
  -rw-rw-r-- 1 cmshared cmshared 382 Apr 18 11:00
  AM1Eph#30012312200OPS.Profile
  -rw-rw-r-- 1 cmshared cmshared 958 Apr 18 11:00
  AM1Eph#30012312200OPS.TkReport
  -rw-rw-r-- 1 cmshared cmshared 3299 Apr 18 11:00
  AM1Eph#30012312200OPS.TkStatus
  -rw-rw-r-- 1 cmshared cmshared 956 Apr 18 11:00
  AM1Eph#30012312200OPS.TkUser
  -rw-rw-r-- 1 cmshared cmshared 1195 Apr 18 11:00
  AM1Eph#30012312200OPS_PGE.IN
  -rw-rw-r-- 1 cmshared cmshared 7291 Apr 18 11:00 MCFWrite.temp
  -rw-rw-r-- 1 cmshared cmshared 434111 Apr 18 11:00
  pc19811823201201485810900110024
  -rw-rw-r-- 1 cmshared cmshared 7291 Apr 18 11:00

pc19811823201201485810900110024.met
-rw-rw-r-- 1 cmshared cmshared 451584 Apr 18 11:00
pc19811823201201485810900110025

13 Review the contents of the directory to determine who has write permission for files in the directory.

- In the preceding example the user **cmshared** and members of the cmshared group have write permission for the directory.

14 If possible (assuming write permission), at the command line prompt enter:

mv <file name 1> [... <file name x>] <destination directory>

- Move the files to another directory.

15 If write permission is not available, notify the System Administrator of the need to remove the files from the directory.

16 If no problem has been identified, run the Execution Manager in the debugger.

- For detailed instructions refer to the **Run Execution Management Outside of AutoSys** procedure (Section 14.8.4.3).
- Execution Manager (EcDpPrEM) is the DPS program that runs during Preprocessing.

Table 14.8-25. Handle a Failed Preprocessing Job - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
3	**pg <file name>.ALOG** (if applicable)	**enter text, press Enter**
4	Identify error messages in the log file (if applicable)	**read text**
5	If a **"NOFREECPUS"** message was present in the log, restart the job	Use procedure in Section 14.8.4.5
6	If a **"No ads returned when searching IOS database for...."** message was present in the log, notify the Science Data Specialist to verify proper installation of the corresponding ESDT(s)	**contact Science Data Specialist**
7	After the problem has been corrected restart the job (when applicable)	Use procedure in Section 14.8.4.5
8	**pg <file name>.err** (if applicable)	**enter text, press Enter**
9	**/-prep** (if applicable)	**enter text, press Enter**

Table 14.8-25. Handle a Failed Preprocessing Job - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
10	Identify the following type of error message: **"rm: Unable to remove directory <long directory pathname>: File exists"** (if present)	**read text**
11	**cd <long directory pathname>** (if applicable)	**enter text, press Enter**
12	**ls –al** (if applicable)	**enter text, press Enter**
13	Determine who has write permission for files in the directory (if applicable)	**read text**
14	**mv <file name 1> [... <file name x>] <destination directory>** (if applicable)	**enter text, press Enter**
15	Notify the System Administrator of the need to remove the files from the directory (if applicable)	**contact System Administrator**
16	If no problem has been identified, run the Execution Manager in the debugger	Use procedure in Section 14.8.4.3

14.8.4.11 Handle a Hanging Execution Job

This condition is determined by noting that the Execution job has turned orange or oscillates between orange and green on **JobScape** or **TimeScape**. It is most likely that the AutoSys client is down.

Perform the **Check AutoSys Status** procedure (Section 14.8.2.1).

14.8.4.12 Handle a Failed Execution Job

This condition is indicated when the Execution (PGE) job only is red on **JobScape** or **TimeScape**. This is hard to do, because the AutoSys job definition for this job says to allow **any** exit code to indicate success. It is set up this way so the next job, the Postprocessing job, continues even when the Execution job fails. The Execution job goes to a "success" state even when the PGE Wrapper job, EcDpPrRunPGE, does not exist. However, the Execution job can fail if AutoSys cannot see the machine.

Perform the **Check AutoSys Status** procedure (Section 14.8.2.1).

14.8.4.13 Respond to Execution Job and/or Postprocessing Job That Have (Has) Failed

This condition is determined by noting that the Execution job has turned red in **JobScape** or **TimeScape** or the entire job box has turned red (failedPGE scenario).

Perform the appropriate procedure(s) related to responding to Execution and/or Postprocessing Jobs that have failed:

- **Respond to Execution Job That Has Failed and the DPR Has Gone into "Failed-PGE" Processing** (Section 14.8.4.14).
- **Handle a Failed Postprocessing Job** (Section 14.8.4.15).
- **Handle Failure of Both Execution and Postprocessing Jobs** (Section 14.8.4.16).

14.8.4.14 Respond to Execution Job That Has Failed and the DPR Has Gone into "Failed-PGE" Processing

This condition is indicated when the entire job box has turned red in **JobScape** or **TimeScape** along with the Postprocessing job. A Failed PGE tar file has been created and archived.

A PGE may fail for many reasons. For example, the following conditions can cause PGE failure:

- The PGE has the wrong architecture.
- One of the expected inputs for the PGE is missing.
- The leap seconds file is incorrect.
- The file-watcher program detected that the PGE was writing files much larger than expected.
- There are problems accessing the Toolkit on the Science Processor.
- The PGE has not been staged.

Table 14.8-26 presents (in a condensed format) the steps required to respond to an Execution job that has failed and the DPR has gone into "Failed-PGE" processing. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Notify the SSI&T team to check the PGE architecture using the SSIT tools.

- If the PGE has the wrong architecture, it is probably because the PGE was improperly defined as **New32**, **Old32** or **64** from the SSIT Operational Metadata GUI.
  - The PGE core dumps because of this problem.
- After the SSI&T team has entered the correct architecture using the SSIT Operational Metadata GUI the Production Planner has to delete and recreate all DPRs created for that PGE.

2 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

3 At the command line prompt enter:

cd /<path>

- Change directory to the run-time directory for the job (e.g., /usr/ecs/OPS/CUSTOM/pdps/x0spg01/data/DpPrRm/x0spg01_disk/ACT#syn1/ACT#syn1#004130123OPS_x0spg01/).

4 At the command line prompt enter:

ls

- A listing of the directory is displayed, for example:

x0sps02:/usr/ecs/OPS/CUSTOM/pdps/x0spg01/data/DpPrRm/x0spg01_disk/AM1Eph#30001/AM1Eph#30012312200OPS_x0spg01[82] > ls
AM1ATTH0#001.MCF
AM1ATTN0#001.MCF
AM1EPHH0#001.MCF
AM1EPHN0#001.MCF
AM1Eph#30012312200OPS.Log
AM1Eph#30012312200OPS.Pcf
AM1Eph#30012312200OPS.Profile
AM1Eph#30012312200OPS.TkReport
AM1Eph#30012312200OPS.TkStatus
AM1Eph#30012312200OPS.TkUser
AM1Eph#30012312200OPS_PGE.IN
MCFWrite.temp
pc19811823201201485810900110024
pc19811823201201485810900110024.met
pc19811823201201485810900110025

5 Review the contents of the runtime directory of the PGE/DPR to determine whether status logs were created for the PGE.

- Status logs have the following formats:
  - <DPR number>.TkStatus
  - <DPR number>.Tkuser
  - <DPR number>.TkLog
- DPS uses a Toolkit command to start the PGE. So if no status logs were created for the PGE, it is very likely that the Toolkit was not installed properly on the Science Processor.

6 If no status logs were created for the PGE, at the command line prompt enter:

cd /<path>

- Change directory to the CUSTOM directory for the mode (e.g., /usr/ecs/OPS/CUSTOM).

7 If no status logs were created for the PGE, at the command line prompt enter:

ls -al

- The following type of directory listing is displayed:

```
x0spg01:/usr/ecs/OPS/CUSTOM[45] > ls -al
total 392
drwxrwxrwx   20 cmops    cmops      4096 Apr  6 17:05 .
drwxr-xr-x    4 root     sys          37 Oct  7  1997 ..
-rw-rw-r--    1 cmops    cmops      3834 Mar 27 12:41 .applications
-rw-rw-r--    1 cmops    cmops      1603 Mar 27 12:42 .cache
-rw-rw-r--    1 cmops    cmops     16547 Mar 27 12:41 .cfgpatch
-rw-rw-r--    1 cmops    cmops      6160 Mar 27 12:41 .envvars
-rw-rw-r--    1 cmops    cmops     22841 Mar 27 12:41 .executables
-rw-rw-r--    1 cmops    cmops      4368 Mar 27 12:41 .hostmap
drwxrwxr-x    6 cmops    cmops        61 Oct  8  1999 .installed
-rw-rw-r--    1 cmops    cmops     12616 Mar 27 12:41 .installtypes
-rw-rw-r--    1 cmops    cmops      8657 Mar 27 12:41 .sitehostmap
-rw-rw-r--    1 cmops    cmops     72760 Mar 27 12:41 .sitemap
-rw-rw-r--    1 cmops    cmops      1845 Mar 27 12:41 .subsystems
drwxr-xr-x    6 cmops    cmops      4096 Dec 14 09:14 Aadata
drwxrwxr-x    9 cmops    cmops       122 Mar 27 12:35 HDF
drwxrwxr-x    4 cmops    cmops        45 Nov 18 15:01 HDFEOS
drwxrwxrwx    3 cmops    cmops        25 Oct 11  1999 TOOLKIT
drwxrwxr-x    3 cmops    cmops        21 Oct 11  1999 WWW
drwxr-xr-x   27 cmops    cmops      4096 Nov 18 15:02 backup
drwxrwxr-x    6 cmops    cmops       142 Nov 30 15:38 bin
drwxrwxr-x    2 cmops    cmops         9 Oct 11  1999 cfg
drwxr-xr-x    4 cmops    cmops      4096 Sep 27  1999 daac_toolkit_f77
drwxrwxr-x    7 cmops    cmops        69 May  7  1999 data
drwxrwxr-x    3 cmops    cmops        21 Oct 11  1999 dbms
drwxrwxr-x    6 cmops    cmops        57 Oct 11  1999 lib
drwxrwxr-x    2 cmops    cmops      4096 Apr 18 19:52 logs
drwxr-xr-x    4 root     sys          41 Jun 24  1998 pdps
drwxrwxr-x    2 cmops    cmops        36 Mar 27 12:41 security
drwxr-xr-x    3 root     sys          25 Dec 18  1997 ssit
lrwxr-xr-x    1 cmops    cmops        36 Mar 27 17:13 toolkit ->
/usr/ecs/OPS/CUSTOM/daac_toolkit_f77
drwxrwxr-x    2 cmops    cmops      4096 Mar 27 12:41 utilities
```

- There should be a “toolkit” subdirectory as shown in the example.

8 If the Toolkit was not properly installed, notify the Operations Controller/System Administrator to have the problem corrected.

9 If the Toolkit was properly installed and there are status logs in the runtime directory, at the command line prompt enter:

cd /<path>

- Change directory to the run-time directory for the job (e.g., /usr/ecs/OPS/CUSTOM/pdps/x0spg01/data/DpPrRm/x0spg01_disk/ACT#syn1/ACT#syn1#004130123OPS_x0spg01/).

10 If the Toolkit was properly installed and there are status logs in the runtime directory, at the command line prompt enter:

pg <DPR number>.TkStatus

- **<DPR number>** refers to the name of the job (e.g., AM1Eph#30012312200OPS or ACT#syn1#004130123OPS).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

11 Review the **<DPR number>.TkStatus** log in the runtime directory of the PGE/DPR for messages concerning a missing input or inability to get number of files.

- If the PGE is missing an input, it is probably because the DPR was released into AutoSys although not all of its inputs were available at the Data Server.
- To exit from **pg** at the **:** prompt enter:

  q

  – The command line prompt is displayed.

12 If a **logicalId** is mentioned in the context of a missing input or inability to get number of files, at the command line prompt enter:

pg <DPR number>.Pcf

- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

13 If a **logicalId** is mentioned in the context of a missing input or inability to get number of files, review the <**DPR number>.Pcf** file in the runtime directory of the PGE/DPR to determine whether that **logicalId** is present in the file.

- If the PGE is missing an input, the **logicalId** will not be present in the <**DPR number>.Pcf** file.
- To exit from **pg** at the **:** prompt enter:

  q

  – The command line prompt is displayed.

14 Log in to the PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 14.8.3.3).
- For example:

  x0sps02:/usr/ecs/OPS/CUSTOM[4] > isql -U pdps_role -S x0pls02_srvr
  Password:
  1> use pdps
  2> go

15 To search on the **dprId** for the **logicalId** and the corresponding value in the **accepted** column in the **PlDprData** table at the **1>** prompt enter:

select dprId,granuleId,logicalId,accepted from PlDprData where dprId like "<DPR ID>"

- For example:

  1> select dprId,granuleId,logicalId,accepted from PlDprData where dprId like "ACT#syn1#014020000OPS"

16 At the **2>** prompt enter:

go

- Contents of the following columns of the **PlDprData** table for the specified DPR are displayed:
  - **dprId.**
  - **granuleId.**
  - **logicalId.**
  - **accepted.**
- For example:

```
dprId
      granuleId
      logicalId   accepted
 ----------------------------
      ------------------------------------------------------------------------------------------------------
---------------------------------
      ---------- ----------
ACT#syn1#014020000OPS
      AST_09T#00102141998020000000
           2000         6
ACT#syn1#014020000OPS
      AST_ANC#001L1008
           1200         5
ACT#syn1#014020000OPS
      AST_L1B#00102141998020000000
```

1100 5
ACT#syn1#014020000OPS

GDAS_0ZF#001O1006
1101 5

(4 rows affected)

17 Record (write down) the entries the values of all inputs to the DPR in the **"accepted"** field in the **PlDprData** table.

18 If the **accepted** field has "0" as its value, notify the Production Planner to delete the DPR and re-create it.

- If the **accepted** field has "0" as its value, the DPR was released without all of its inputs and that is why the PGE failed.

19 To exit from **isql** at the **1>** prompt enter:

quit

- The connection with the database is discontinued.

20 At the command line prompt enter:

cd /<path>

- Change directory to the directory containing the log files for the DPR (e.g., /usr/ecs/OPS/CUSTOM/logs).

21 At the command line prompt enter:

ls

- A listing of files in the logs directory is displayed.

22 At the command line prompt enter:

pg <file name>

- The <**file name**> refers to the name of the log file (e.g., ACT#syn1#014020000OPS.err, ACT#syn1#014020000OPS.ALOG).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

23 Review the DPR log file(s) for message(s) concerning a missing **logicalId**.

- Search for error messages concerning a missing Logical Id.
  - The error message may refer to either "missing" or "Logical Id" in lower case or upper case depending on the type of log file.
  - "Logical Id" may be one word or two (e.g., Logical Id, logicalId) depending on the type of log file.

- If one of the expected inputs for the PGE is missing, it is possible that an expected input of the PGE is not defined in the PGE ODL file.
- To exit from **pg** at the **:** prompt enter:

  q

  – The command line prompt is displayed.

24 Access a terminal window logged in to the AIT Workstation host.

- Examples of AIT Workstation host names include **e0ais02, g0ais05, l0ais09**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

25 At the command line prompt enter:

cd /<path>

- Change directory to the directory containing the ODL files (e.g., /usr/ecs/OPS/CUSTOM/data/DPS/ODL).

26 At the command line prompt enter:

ls

- A listing of files in the ODL directory is displayed.

27 At the command line prompt enter:

PGE_<PGE number>.odl

- **<PGE number>** refers to the name of the PGE (e.g., ACT#syn1#01).
- The first page of the ODL file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

28 Review the PGE ODL file for the expected **logicalId** (listed as **LOGICAL_ID** in the ODL file).

- For example:

```
OBJECT = PCF_ENTRY
  CLASS = 11
  LOGICAL_ID = 1100
  PCF_FILE_TYPE = 1

  DATA_TYPE_NAME = "AST_L1B"
  DATA_TYPE_VERSION = "001"
  DATA_TYPE_REQUIREMENT = 1
  BEGIN_PERIOD_OFFSET = 0
  END_PERIOD_OFFSET = 0
  INPUT_TYPE = "Required"
  NUMBER_NEEDED = 1
  KEY_INPUT = "Y"
```

```
/**** Entry needed for all I/O (except for Temporary) ****/
/**** Only modify if multiple files and/or file types for this PCF entry ****/
  OBJECT = FILETYPE
    FILETYPE_NAME = "Single File Granule"
    CLASS = 1
  END_OBJECT = FILETYPE
END_OBJECT = PCF_ENTRY
```

- The example shows the PGE ODL entry for **logicalId** 1100 (AST_L1B), which is input for ACT PGEs. There are additional PCF_ENTRY objects in the ODL file for the other files associated with the PGE.
- If the PGE is synthetic, it is possible that the ODL was filled out incorrectly because of special parameters that the synthetic PGE expects.
- To exit from **pg** at the **:** prompt enter:

  q

  – The command line prompt is displayed.

29 If the ODL file is incorrect, notify the SSI&T team to have the file corrected.

30 If not still logged in, log in to the PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 14.8.3.3).

31 To search on the **granuleId** to determine the corresponding value in the **availability** column in the **PlDataGranuleShort** table at the **1>** prompt enter:

select granuleId,availability from PlDataGranuleShort where granuleId like "<granule ID>"

- For example:

  select granuleId,availability from PlDataGranuleShort where granuleId like "AST_L1B#00102141998020000000"

32 At the **2>** prompt enter:

go

- Contents of the following columns of the **PlDataGranuleShort** table for the specified granule are displayed:
  – **granuleId.**
  – **availability.**

33 Observe the entries in the **PlDataGranuleShort** table to determine whether all inputs to the DPR have "1" as their **availability** flag setting.

- For example:

  1> select granuleId,availability from PlDataGranuleShort where granuleId like "AST_L1B#00102141998020000000"
  2> go

  granuleId
  availability

  AST_L1B#00102141998020000000
  1

  (1 row affected)

- In the example the availability flag of the granule is set at "1," which indicates that the granule is available.
- The same sort of query would be accomplished for the other two inputs; i.e., granuleId AST_ANC#001L1008 and granuleId GDAS_0ZF#001O1006.

34 Observe the entries in the **PlDprData** table to determine whether all inputs to the DPR have "1" in their **"accepted"** field.

- As shown in Step 16, the **"accepted"** fields for the inputs for the example have the following values:
  - AST_ANC#001L1008 5
  - AST_L1B#00102141998020000000 5
  - GDAS_0ZF#001O1006 5
- Note that AST_09T#00102141998020000000 is an output, not an input.
- A miscommunication can cause the Subscription Manager to release a PGE despite the fact that it is missing one (or more) input(s).

35 To exit from **isql** at the **1>** prompt enter:

quit

- The connection with the database is discontinued.

36 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

37 At the command line prompt enter:

cd /<path>

- Change directory to the run-time directory for the job (e.g., /usr/ecs/OPS/CUSTOM/pdps/x0spg01/data/DpPrRm/x0spg01_disk/ACT#syn1/ACT#syn1#004130123OPS_x0spg01/).

38 At the command line prompt enter:

pg <DPR number>.TkStatus

- **<DPR number>** refers to the name of the job (e.g., AM1Eph#30012312200OPS or ACT#syn1#004130123OPS).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

39 Review the **<DPR number>.TkStatus** log in the runtime directory of the PGE/DPR for an error message indicating that the Toolkit had trouble processing some time associated with the PGE.

- An error message indicating that the Toolkit had trouble processing some time associated with the PGE may indicate that the leap seconds file is incorrect.
- To exit from **pg** at the **:** prompt enter:

  q

  – The command line prompt is displayed.

40 If it is suspected that that the leap seconds file is incorrect, notify the SSI&T team to have the leap seconds file updated.

- An error message indicating that the Toolkit had trouble processing some time associated with the PGE may indicate that the leap seconds file is incorrect.

41 At the command line prompt enter:

pg <DPR number>.Log

- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

42 Review the **<DPR number>.Log** file for the PGE in the runtime directory of the PGE/DPR for a message from the file watcher indicating that the PGE was killed because of output file size.

- The file watcher runs in the background and verifies that the PGE does not exceed its output file sizes by a configurable amount.
- If a PGE creates a file that is "too large" the file watcher kills the PGE.

- To exit from **pg** at the **:** prompt enter:

  q

  – The command line prompt is displayed.

43 If file watcher killed the PGE because the output file exceeded its expected size, notify the SSI&T team of the problem.

44 If no file watcher-associated problem was found in the **<DPR number>.Log** file, at the command line prompt enter:

cd /<path>

- Change directory to the directory where the PGE should have been staged (e.g., /usr/ecs/OPS/CUSTOM/pdps/x0spg01/data/DpPrRm/x0spg01_disk/ACT#syn1/).

45 If no file watcher-associated problem was found in the **<DPR number>.Log** file, at the command line prompt enter:

ls

- A listing of files in the directory is displayed.

46 Review the directory listing to determine the presence of the PGE executable.

- DPS must acquire (stage) the PGE from Science Data Server before it runs for the first time.
- In the subdirectory that matches the <PGE Name>#<science software ID> (i.e., ACT#syn1 in the example) the PGE should have been staged and untarred. If no PGE executable exists in the directory, that is the reason for the PGE failure.
- Possible reasons why DPS would have run the PGE execution job without a PGE:
  - The DpPrExecutable table has entries after the database has been cleaned.
  - There is a file permission problem.

47 If not still logged in, log in to the PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 14.8.3.3).

48 To search on the **sswId** to determine the corresponding value in the **execLayer** column in the **DpPrExecutable** table at the **1>** prompt enter:

select sswId,execLayer from DpPrExecutable where sswId like "<software ID>"

- For example:

  select sswId,execLayer from DpPrExecutable where sswId like "ACT#syn1"

49 At the **2>** prompt enter:

go

- Contents of the following columns of the **DpPrExecutable** table for the specified granule are displayed:
  - **sswId.**
  - **execLayer.**

50 Observe the entries in the **DpPrExecutable** table to determine whether there is an entry for the failing PGE with a setting of "0" in the **execLayer** column.

- For example:

```
1> select sswId,execLayer from DpPrExecutable where sswId like "ACT#syn1"
2> go
 sswId           execLayer
 ---------------- -----------
 ACT#syn1                 0

 (1 row affected)
```

- If there is an entry for the failing PGE in the **DpPrExecutable** database table and it has an entry of "0" in the **execLayer** column, DPS thinks that it has already staged the PGE.

51 If there is an entry for the failing PGE in the **DpPrExecutable** database table and it has an entry of "0" in the **execLayer** column, at the **1>** prompt enter:

delete * from DpPrExecutable where sswId like "<software ID>"

- For example:

1> delete * from DpPrExecutable where sswId like "ACT#syn1"

52 At the **2>** prompt enter:

go

- Entries in the **DpPrExecutable** table related to the specified sswId are deleted.

53 At the **2>** prompt enter:

quit

- The connection with the database is discontinued.

54 If the **DpPrExecutable** database table contained an entry (for the failing PGE) that was deleted, make a request to the Production Planner to replan the DPR(s).

55 If the **DpPrExecutable** database table has an entry of some value other than "0" in the **execLayer** column, access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

56 If the **DpPrExecutable** database table has an entry of some value other than "0" in the **execLayer** column, at the command line prompt enter:

cd /<path>

- Change directory to the run-time directory for the job (e.g., /usr/ecs/OPS/CUSTOM/pdps/x0spg01/data/DpPrRm/x0spg01_disk/ACT#syn1/ACT#syn1#004130123OPS_x0spg01/).

57 If the **DpPrExecutable** database table has an entry of some value other than "0" in the **execLayer** column, at the command line prompt enter:

pg <DPR number>.TkStatus

- **<DPR number>** refers to the name of the job (e.g., AM1Eph#30012312200OPS or ACT#syn1#004130123OPS).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

58 If the **DpPrExecutable** database table has an entry of some value other than "0" in the **execLayer** column, review the **<DPR number>.TkStatus** log in the runtime directory of the PGE/DPR to identify the file or type of file (i.e., metadata file or data file) to which the PGE is having trouble writing.

- To exit from **pg** at the **:** prompt enter:

  q

  – The command line prompt is displayed.

59 At the command line prompt enter:

cd /<path>

- Change directory to the directory containing the file to which the PGE is having trouble writing.
- The directory structure under which DPS manages its files is defined by the machines (science processors), what are called the DataRoots for those machines, and the disks defined by the system. The directory structure can be represented as follows:

  {machine name}_DataRoot
  {disk one} {disk two} . . . .
  {PGENAME}#{software version}
  {DPR Name}_{machine name}

- The **{machine name}_DataRoot** parameter is found in the Configuration Registry for Execution Management (EcDpPrEM). The **{machine name}** is the name(s) of the science processor(s). There is a data root for each science processor in the system. The **{machine name}_DataRoot** is considered the top-level directory, where a directory for each disk in the system is placed. So under this directory are directories named after the various disks on the system.
  – In the disk directories input and output files are acquired and produced.

- Underneath the disk directories are directories for each PGE of the form **{PGENAME}#{Software Version}**. This is where the PGE tar files and toolkit files are staged.
- Beneath the PGE directories is a directory for each DPR (**{DPR Name}_{machine name}**) which is where the toolkit status files, PGE logs and temporary files are placed.

- The PGE creates the following files:
  - An output file for every granule that it produces.
    - Each output file has the form **{granuleId}.{file number}**, where the Granule Id matches the granuleId in the **PlDataGranuleShort** and **DpPrGranuleLocation** database tables. File number is added to differentiate different files within a granule.
  - A .met file for every granule that it produces.
    - Each .met file has the form **{granule Id}.met**.
  - Toolkit status logs.
    - The toolkit status logs have the form **{DPRID}.Tkstatus**, **{DPRID}.Tkuser** and **{DPRID}.TkLog**. They are placed in the runtime directory of the PGE/DPR.

60 At the command line prompt enter:

ls -al

- A long listing of files in the directory is displayed.
- For example:

```
x0sps02:/usr/ecs/OPS/CUSTOM/pdps/x0spg01/data/DpPrRm/x0spg01_disk[94]
> ls -al | pg
total 14185088
drwxrwxr-x  26 cmshared cmshared   65536 Apr 18 19:52 .
drwxrwxr-x   3 cmops    cmops        30 Apr 30  1999 ..
drwxrwxr-x   2 cmshared cmshared   65536 Apr 17 10:49 ACT#syn1
-rw-r--r--   1 EcDpPrEm users        384 Apr 18 16:06
AM1ANC#00101012000000000000000
-rw-r--r--   1 EcDpPrEm users      20988 Apr 18 16:06
AM1ANC#00101012000000000000000.met
-rw-r--r--   1 EcDpPrEm users     450048 Apr 18 16:06
AM1ANC#00101012000000000000001
-rw-r--r--   1 EcDpPrEm users        384 Apr 18 16:11
AM1ANC#00101012000200000000000
-rw-r--r--   1 EcDpPrEm users      20988 Apr 18 16:11
AM1ANC#00101012000200000000000.met
-rw-r--r--   1 EcDpPrEm users     449984 Apr 18 16:11
AM1ANC#00101012000200000000001
```

-rw-r--r-- 1 EcDpPrEm users 384 Nov 23 13:32
AM1ANC#00107311997060000000000
-rw-r--r-- 1 EcDpPrEm users 20988 Nov 23 13:32
AM1ANC#00107311997060000000000.met
-rw-r--r-- 1 EcDpPrEm users 449984 Nov 23 13:32
AM1ANC#00107311997060000000001
-rw-r--r-- 1 EcDpPrEm users 384 Nov 23 13:33
AM1ANC#00107311997080000000000
-rw-r--r-- 1 EcDpPrEm users 20988 Nov 23 13:33
AM1ANC#00107311997080000000000.met
-rw-r--r-- 1 EcDpPrEm users 450048 Nov 23 13:33
AM1ANC#00107311997080000000001
-rw-r--r-- 1 EcDpPrEm users 384 Apr 18 16:05
AM1ANC#00112311999220000000000
-rw-r--r-- 1 EcDpPrEm users 20988 Apr 18 16:05
AM1ANC#00112311999220000000000.met
-rw-r--r-- 1 EcDpPrEm users 449984 Apr 18 16:05
AM1ANC#00112311999220000000001
-rw-rw-r-- 1 cmshared cmshared 7187328 Dec 15 16:35
AST_09T#00107211993231212003000 0
-rw-rw-r-- 1 cmshared cmshared 13012 Dec 15 16:31
AST_09T#00107211993231212003000 0.met
-rw-rw-r-- 1 cmshared cmshared 7187636 Dec 15 16:52
AST_09T#00107211993231212004000 0
-rw-rw-r-- 1 cmshared cmshared 13012 Dec 15 16:48
AST_09T#00107211993231212004000 0.met
-rw-rw-r-- 1 cmshared cmshared 13012 Dec 15 18:06
AST_09T#00107211993231212005000 0.met

61 Determine who has “write” permission for the file to which the PGE is having trouble writing.

- In the preceding example the user **EcDpPrEM** (the Execution Manager in DPS) has “write” permission for the AM1ANC files shown; the user **cmshared** and members of the cmshared group have “write” permission for the AST_09T files (output of the ACT PGE) shown.
- The PGE must be able to write to the directory where the data is kept (for its PGE outputs and .met files) and to the runtime directory where the log files and temporary files are kept.

- Both the DPS jobs and the PGE must be able to write to the directories.
  - Although it is unlikely, it is possible that the DPS jobs and the PGE have different owners.

62 If there is a discrepancy between the "write" permission for the file and the owner of the job, report the problem to the Operations Controller/System Administrator for resolution.

63 When the problem has been resolved, make a request to the Production Planner to replan the affected DPR(s).

Table 14.8-26. Respond to Execution Job That Has Failed and the DPR Has Gone into "Failed-PGE" Processing - Quick-Step Procedures (1 of 3)

Step	What to Enter or Select	Action to Take
1	Notify the SSI&T team to check the PGE architecture using the SSIT tools	**contact SSI&T team**
2	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
3	**cd /<path>** (run-time directory for the job)	**enter text, press Enter**
4	**ls**	**enter text, press Enter**
5	Determine whether status logs were created for the PGE	**read text**
6	**cd /usr/ecs/<MODE>/CUSTOM** (if applicable)	**enter text, press Enter**
7	**ls -al** (if applicable)	**enter text, press Enter**
8	If there is **no** toolkit directory, notify the Operations Controller/System Administrator to have the problem corrected	**contact Operations Controller**
9	**cd /<path>** (run-time directory for the job) (if applicable)	**enter text, press Enter**
10	**pg <DPR number>.TkStatus** (if applicable)	**enter text, press Enter**
11	Identify messages concerning a missing input or inability to get number of files (if any)	**read text**
12	**pg** <**DPR number>.Pcf** (if applicable)	**enter text, press Enter**
13	Determine whether that **logicalId** is present in the file(if applicable)	**read text**
14	Log in to the PDPS database	Use procedure in Section 14.8.3.3
15	**select dprId,granuleId,logicalId,accepted from PlDprData where dprId like "<DPR ID>"**	**enter text, press Enter**
16	**go**	**enter text, press Enter**
17	Record the values of all inputs to the DPR in the **"accepted"** field in the **PlDprData** table	**write text**
18	If the **accepted** field has "0" as its value, notify the Production Planner to delete the DPR and re-create it	**contact Production Planner**

Table 14.8-26. Respond to Execution Job That Has Failed and the DPR Has Gone into "Failed-PGE" Processing - Quick-Step Procedures (2 of 3)

Step	What to Enter or Select	Action to Take
19	**quit**	**enter text, press Enter**
20	**cd /<path>** (log file for the DPR)	**enter text, press Enter**
21	**ls**	**enter text, press Enter**
22	**pg <file name>** (log file for the DPR)	**enter text, press Enter**
23	Identify message(s) concerning a missing **logicalId** (if any)	**read text**
24	UNIX window (AIT Workstation)	**single-click** or use procedure in Section 14.2.1
25	**cd /<path>** (ODL files)	**enter text, press Enter**
26	**ls**	**enter text, press Enter**
27	**PGE_<PGE number>.odl**	**enter text, press Enter**
28	Review the PGE ODL file for the expected **logicalId** (listed as **LOGICAL_ID** in the ODL file)	**read text**
29	Notify the SSI&T team to have the ODL file corrected (if applicable)	**contact SSI&T team**
30	Log in to the PDPS database (if necessary)	Use procedure in Section 14.8.3.3
31	**select granuleId,availability from PlDataGranuleShort where granuleId like "<granule ID>"**	**enter text, press Enter**
32	**go**	**enter text, press Enter**
33	Determine whether all inputs to the DPR have "1" as their **availability** flag setting in the **PlDataGranuleShort** table	**read text**
34	Determine whether all inputs to the DPR have "1" in their **"accepted"** field in the **PlDprData** table (refer to Step 17))	**read text**
35	**quit**	**enter text, press Enter**
36	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
37	**cd /<path>** (run-time directory for the job)	**enter text, press Enter**
38	**pg <DPR number>.TkStatus**	**enter text, press Enter**
39	Identify error message (if any) indicating that the Toolkit had trouble processing some time associated with the PGE	**read text**
40	Notify the SSI&T team to have the leap seconds file updated (if applicable)	**contact SSI&T team**
41	**pg <DPR number>.Log**	**enter text, press Enter**
42	Identify message from the file watcher indicating that the PGE was killed because of output file size	**read text**

Table 14.8-26. Respond to Execution Job That Has Failed and the DPR Has Gone into "Failed-PGE" Processing - Quick-Step Procedures (3 of 3)

Step	What to Enter or Select	Action to Take
43	Notify the SSI&T team of the problem (if applicable)	**contact SSI&T team**
44	**cd /<path>** (PGE staging directory)	**enter text, press Enter**
45	**ls**	**enter text, press Enter**
46	Determine whether the PGE executable is present in the directory	**read text**
47	Log in to the PDPS database (if necessary)	Use procedure in Section 14.8.3.3
48	**select sswId,execLayer from DpPrExecutable where sswId like "<software ID>"**	**enter text, press Enter**
49	**go**	**enter text, press Enter**
50	Determine whether there is an entry for the failing PGE with a setting of "0" in the **execLayer** column in the **DpPrExecutable** table	**read text**
51	**delete * from DpPrExecutable where sswId like "<software ID>"** (if applicable)	**enter text, press Enter**
52	**go**	**enter text, press Enter**
53	**quit**	**enter text, press Enter**
54	Make a request to the Production Planner to replan the DPR(s) (if applicable)	**contact Production Planner**
55	UNIX window (Queuing Server) (if applicable)	**single-click** or use procedure in Section 14.2.1
56	**cd /<path>** (run-time directory for the job) (if applicable)	**enter text, press Enter**
57	**pg <DPR number>.TkStatus** (if applicable)	**enter text, press Enter**
58	Identify the file or type of file (i.e., metadata file or data file) to which the PGE is having trouble writing (if applicable)	**read text**
59	**cd /<path>** (directory containing the file to which the PGE is having trouble writing) (if applicable)	**enter text, press Enter**
60	**ls -al** (if applicable)	**enter text, press Enter**
61	Determine who has "write" permission for the file to which the PGE is having trouble writing (if applicable)	**read text**
62	If there is a discrepancy between the "write" permission for the file and the owner of the job, report the problem to the Operations Controller/System Administrator for resolution	**contact Operations Controller/System Administrator**
63	Make a request to the Production Planner to replan the affected DPR(s) (when applicable)	**contact Production Planner**

14.8.4.15 Handle a Failed Postprocessing Job

If postprocessing fails, the Postprocessing job turns red on **JobScape** or **TimeScape**.

Table 14.8-27 presents (in a condensed format) the steps required to handle a failed Postprocessing job. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the data processing log files (e.g., EcDpPrJobMgmt.ALOG, EcDpPrDeletion.ALOG).

3 If there is an ALOG file for the job, at the command line prompt enter:

pg <file name>.ALOG

- **<file name>** refers to the data processing log file to be reviewed (e.g., <DPR number>.ALOG).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **more**) can be used to review the log file.

4 If there is an ALOG file for the job, review the log file for an error message concerning DPS having trouble finding a log file.

- An error message concerning DPS having trouble finding a log file means that the PGE probably did not run due to one of the following problems:
  - The toolkit links on the science processor are not correct.
  - The **auto.profile** configuration file has not been generated correctly.
- To exit from **pg** at the **:** prompt enter:

  q

  - The command line prompt is displayed.

5 Access a terminal window logged in to the applicable Science Processor.

- Examples of Science Processor names include **e0spg01, g0spg01, l0spg01**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

6 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM

7 At the command line prompt enter:

ls -al

- A listing of the directory is displayed.
- There should be a "toolkit" subdirectory in the listing.

8 If there is **no** toolkit directory, notify the Operations Controller/System Administrator to have the directory created and linked correctly.

9 If there is a toolkit directory, notify the Operations Controller/System Administrator that the **auto.profile** file(s) may need to be corrected.

- There is an auto.profile file in the /usr/ecs/<MODE>/CUSTOM/bin/DPS directory on the Queuing Server and on each Science Processor.
- There may be a discrepancy between the auto.profile file and what is specified in the EcDpPrAutosysMkcfg or EcDpScAutosysMkcfg file (in the /usr/ecs/<MODE>/CUSTOM/utilities directory).
  - The EcDpPrAutosysMkcfg (Queuing Server) and EcDpScAutosysMkcfg (Science Processor) files are used in generating the auto.profile files.
- The AutoSys Mkcfg may have to be run again or the auto.profile file may have to be changed manually.

10 If no problem has been identified, run the Execution Manager in the debugger.

- Execution Manager (EcDpPrEM) is the DPS program that runs during insertion.
- For detailed instructions refer to the **Run Execution Management Outside of AutoSys** procedure (Section 14.8.4.3).

Table 14.8-27. Handle a Failed Postprocessing Job - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
3	**pg <file name>.ALOG** (if applicable)	**enter text, press Enter**
4	Determine whether DPS was having trouble finding a log file (if applicable)	**read text**
5	UNIX window (Science Processor)	**single-click** or use procedure in Section 14.2.1
6	**cd /usr/ecs/<MODE>/CUSTOM**	**enter text, press Enter**
7	**ls -al**	**enter text, press Enter**

Table 14.8-27. Handle a Failed Postprocessing Job - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
8	If there is **no** toolkit directory, notify the Operations Controller/System Administrator to have the directory created and linked	**contact Operations Controller**
9	If there is a toolkit directory, notify the Operations Controller/System Administrator that the **auto.profile** file(s) may need to be corrected	**contact Operations Controller**
10	Run the Execution Manager in the debugger (if applicable)	Use procedure in Section 14.8.4.3

14.8.4.16 Handle Failure of Both Execution and Postprocessing Jobs

This condition is indicated when both the Execution and Postprocessing Jobs are red in **JobScape** or **TimeScape**, but no other jobs are red. This indicates that the Postprocessing job has read the log file created by EcDpPrRunPGE in the runtime directory and has found an exit status not equal to zero (0). However, it failed to destage (insert) the failed PGE tar file.

Table 14.8-28 presents (in a condensed format) the steps required to handle failure of both Execution and Postprocessing jobs. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the data processing log files (e.g., EcDpPrJobMgmt.ALOG, EcDpPrDeletion.ALOG).

3 At the command line prompt enter:

pg <file name>.err

- **<file name>** refers to the data processing log file to be reviewed (e.g., <DPR number>.err).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

4 Review the .err file for a "FAILPGE" string.

5 Review the .err file for the return value from the Science Data Server around the insertion of the failed PGE tar file.

- To exit from **pg** at the **:** prompt enter:

  q

  – The command line prompt is displayed.

6 If a problem with insertion of the FAILPGE tar file is suspected, continue with the **Handle a Failed Insertion Function** procedure (Section 14.8.4.17).

Table 14.8-28. Handle Failure of Both Execution and Postprocessing Jobs - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
3	**pg <file name>.err**	**enter text, press Enter**
4	Determine whether there is a "FAILPGE" string in the log file	**read text**
5	Determine the return value from the Science Data Server around the insertion of the failed PGE tar file	**read text**
6	Handle a failed insertion function (if applicable)	Use procedure in Section 14.8.4.17

14.8.4.17 Handle a Failed Insertion Function

If the insertion function fails, the Postprocessing job turns red on **JobScape** or **TimeScape**.

Table 14.8-29 presents (in a condensed format) the steps required to handle a failed insertion function. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the data processing log files (e.g., EcDpPrJobMgmt.ALOG, EcDpPrDeletion.ALOG).

3 At the command line prompt enter:

pg <file name>.err

- **<file name>** refers to the data processing log file to be reviewed (e.g., <DPR number>.err).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi, view**, **more**) can be used to review the log file.

4 Review the .err file for the following types of error messages:

Failure inserting metadata into catalog

Error archiving files

Error modifying file usage

No ads returned when searching IOS database for….

- Possible causes of a **"Failure inserting metadata into catalog"** message include the following items:
  - Problem with Storage Management.
  - Problem with a SDSRV temporary directory getting filled up.
  - Metadata file (and possibly the data file) cannot be located by Science Data Server because the mount point between the Science Processor and the Science Data Server machine may have been lost.
  - File names sent to the Science Data Server are invalid or null (e.g., if the **DpPrFile** table in the PDPS database has duplicate entries).
  - Duplicate file entries in the DPS file tables.
- A message that indicates **"Error archiving files"** means that SDSRV is having trouble getting Storage Management to place the file(s) in the archive**.**
- A message that indicates **"Error modifying file usage"** means that the **numberOfUsage** column in the **DpPrFile** table for a particular file is at zero (0) and the software is trying to decrement it, which it cannot do.
- A **"No ads returned…"** message similar to the example that follows means that PDPS contacted the Advertising Service (IOS) and Advertising could not find an entry for the specified ESDT in its database.

  ***** No ads returned when searching IOS database for {ESDT Name}Getqueryableparameters**

- To exit from **pg** at the **:** prompt enter:

  q

  – The command line prompt is displayed.

5 If a **"Failure inserting metadata into catalog"** message was present in the log and the problem occurred for an existing ESDT that has previously worked within the past day or two, notify the Operations Controller or Archive Manager that there may be a problem with Storage Management.

- The STMGT log files may contain information concerning changes/defects in the stored procedures.

6 If a **"Failure inserting metadata into catalog"** message was present in the log and the problem occurred for a new or recently installed ESDT, at the command line prompt enter:

cd /<path>

- Change directory to the run-time directory for the job (e.g., /usr/ecs/OPS/CUSTOM/pdps/x0spg01/data/DpPrRm/x0spg01_disk/ACT#syn1/ACT#syn1#004130123OPS_x0spg01/).

7 If a **"Failure inserting metadata into catalog"** message was present in the log, at the command line prompt enter:

pg <DPR number>.MCF

- **<DPR number>** refers to the name of the job (e.g., AM1Eph#30012312200OPS or ACT#syn1#004130123OPS).
- The first page of the MCF file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **vi**, **view**, **more**) can be used to review the log file.

8 Review the MCF file in the runtime directory of the PGE/DPR to determine values of the mandatory parameters in the metadata file.

- To exit from **pg** at the **:** prompt enter:

  q

  – The command line prompt is displayed.

9 If a **"Failure inserting metadata into catalog"** message was present in the log (Step 4), report values of the mandatory parameters in the metadata file to the Operations Controller or Science Data Specialist so they can be compared with "valids" from the SDSRV database.

- In the GlParameter list from Science Data Server there may be error messages that may indicate which metadata values the Data Server did not like.

10 If a **"Failure inserting metadata into catalog"** message was present in the log, at the command line prompt enter:

cd /<path>

- Change directory to the pdps mount point (e.g., /usr/ecs/OPS/CUSTOM/pdps/x0spg01/data).

11 If the mount point is missing, notify the Operations Controller/System Administrator to have it restored.

12 If a **"Failure inserting metadata into catalog"** message was present in the log (Step 4), access a terminal window logged in to the SDSRV Server host.

- Examples of SDSRV Server host names include **e0acs05, g0acs03, l0acs03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

13 If a **"Failure inserting metadata into catalog"** message was present in the log, at the command line prompt enter:

cd /<path>

- Change directory to the pdps mount point (e.g., /usr/ecs/OPS/CUSTOM/pdps/x0spg01/data).
- The pdps mount point should be visible from both the Queuing Server and the SDSRV Server hosts (and several other hosts as well).

14 If the mount point is missing, notify the Operations Controller/System Administrator to have it restored.

15 If a **"Failure inserting metadata into catalog"** message was present in the log (Step 4), log in to the appropriate PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 14.8.3.3).
- For example:

  x0sps02:/usr/ecs/OPS/CUSTOM[4] > isql -U pdps_role -S x0pls02_srvr
  Password:
  1> use pdps
  2> go

16 If a **"Failure inserting metadata into catalog"** message was present in the log, search in the **DpPrFile** table on the **fileName** corresponding to the ".err" log file name that failed to be inserted (refer to Step 4).

- For example:

  1> select fileName from DpPrFile where fileName like "AST_09T#0010214199802012%"

2> go

fileName

AST_09T#001021419980201200000000

AST_09T#001021419980201200000000.met

(2 rows affected)

- Look for duplicate entries in the table.
- There should be two entries for each file in the **DpPrFile** table; i.e., one for the data file and one for the metadata file (as shown in the example). If there are three or more entries for a file, the table has duplicate entries that are causing the problem.

17 If a **"Failure inserting metadata into catalog"** message was present in the log and if duplicate entries were found in the **DpPrFile** table, notify the Production Planner to delete the DPR whose Insertion job failed.

18 If a **"Failure inserting metadata into catalog"** message was present in the log and if duplicate entries were found in the **DpPrFile** table, clean up the DPS file tables.

- For detailed instructions refer to the **Clean Up the DPS File Tables** procedure (Section 14.8.4.9).

19 If a **"Failure inserting metadata into catalog"** message was present in the log, when the DPS file tables have been cleaned up, notify the Production Planner to recreate the DPR whose Insertion job failed.

20 If an **"Error archiving files"** message was present in the log (Step 4), notify the Operations Controller or Archive Manager that there may be a problem with Storage Management.

- An **"Error archiving files"** message means that SDSRV is having trouble getting Storage Management to place the file(s) in the archive.
- When the **"Error archiving files"** has been corrected, it should be possible to restart the job and have it complete successfully.
  - For detailed instructions refer to the **Force-Start a Job** procedure (Section 14.8.4.5).

21 If an **"Error archiving files"** message was present in the log (Step 4), access a terminal window logged in to the SDSRV Server host.

- Examples of SDSRV Server host names include **e0acs05, g0acs03, l0acs03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

22 If an **"Error archiving files"** message was present in the log, at the command line prompt enter:

cd /<path>

- Change directory to the pdps mount point (e.g., /usr/ecs/OPS/CUSTOM/pdps/x0spg01/data).

23 If the mount point is missing, notify the Operations Controller/System Administrator to have it restored.

24 If an **"Error modifying file usage"** message was present in the log (Step 4), log in to the appropriate PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 14.8.3.3).
- Refer to the example in Step 15.
- A message that indicates **"Error modifying file usage"** means that the **numberOfUsage** column in **DpPrFile** table for a particular file is at zero (0) and the software is trying to decrement it.
  - The **numberOfUsage** column is an increment/decrement counter and is not normally decremented more times than it is incremented when under software control.
  - However, if someone manually changes the database, the value may get out of sync.

25 If an **"Error modifying file usage"** message was present in the log, update the **numberOfUsage** column in **DpPrFile** table for the particular file so it is set at one (1).

- For example:

  1> update DpPrFile set numberOfUsage=1 where fileName like "AST_09T#0010214199802012%"
  2> go

- When the database has been corrected, it should be possible to restart the job and have it complete successfully.
  - For detailed instructions refer to the **Force-Start a Job** procedure (Section 14.8.4.5).

26 If a **"No ads returned when searching IOS database for...."** message was present in the log (Step 4), notify the Science Data Specialist or whoever else installs ESDTs to verify that the corresponding ESDT(s) has/have been properly installed.

- Advertising receives information concerning ESDTs when they are installed in Science Data Server.
- Advertising puts entries in its database for each ESDT installed and lists the UR of the Data Server (the server UR) that provides services for the ESDT (inserts/acquires/searches).
- If Advertising cannot find an entry for the ESDT in question it indicates either of the following conditions:
  - The ESDT was not installed.
  - The ESDT was not installed properly.

27 If a **"No ads returned when searching IOS database for...."** message was present in the log, after the problem has been corrected restart the job.

- For detailed instructions refer to the **Force-Start a Job** procedure (Section 14.8.4.5).

28 If no problem has been identified, run the Execution Manager in the debugger.

- Execution Manager (EcDpPrEM) is the DPS program that runs during insertion.
- For detailed instructions refer to the **Run Execution Management Outside of AutoSys** procedure (Section 14.8.4.3).

Table 14.8-29. Handle a Failed Insertion Function - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
3	**pg <file name>.err**	**enter text, press Enter**
4	Review the file for error messages	**read text**
5	Notify the Operations Controller or Archive Manager that there may be a problem with Storage Management (if applicable)	**contact Operations Controller**
6	**cd /<path>** (run-time directory for the job) (if applicable)	**enter text, press Enter**
7	**pg <DPR number>.MCF** (if applicable)	**enter text, press Enter**
8	Determine values of the mandatory parameters in the metadata file (if applicable)	**read text**
9	Report values to the Operations Controller or Science Data Specialist (if applicable)	**contact Operations Controller**
10	**cd /<path>** (pdps mount point) (if applicable)	**enter text, press Enter**
11	If the mount point is missing, notify the Operations Controller/System Administrator (if applicable)	**contact Operations Controller**
12	UNIX window (SDSRV Server host) (if applicable)	**single-click** or use procedure in Section 14.2.1
13	**cd /<path>** (pdps mount point) (if applicable)	**enter text, press Enter**
14	If the mount point is missing, notify the Operations Controller/System Administrator (if applicable)	**contact Operations Controller**
15	Log in to the appropriate PDPS database (if applicable)	Use procedure in Section 14.8.3.3

Table 14.8-29. Handle a Failed Insertion Function - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
16	Search in the **DpPrFile** table on the **fileName** corresponding to the ".err" log file name (if applicable)	Use procedure in Section 14.8.3.3
17	If duplicate entries were found in the **DpPrFile** table, notify the Production Planner to delete the DPR whose Insertion job failed	**contact Production Planner**
18	Clean up the DPS file tables (if applicable)	Use procedure in Section 14.8.4.9
19	Notify the Production Planner to recreate the DPR whose Insertion job failed (if applicable)	**contact Production Planner**
20	Notify the Operations Controller or Archive Manager that there may be a problem with Storage Management (if applicable)	**contact Operations Controller**
21	UNIX window (SDSRV Server host) (if applicable)	**single-click** or use procedure in Section 14.2.1
22	**cd /<path>** (pdps mount point) (if applicable)	**enter text, press Enter**
23	If the mount point is missing, notify the Operations Controller/System Administrator (if applicable)	**contact Operations Controller**
24	Log in to the appropriate PDPS database (if applicable)	Use procedure in Section 14.8.3.3
25	Update the **numberOfUsage** column in **DpPrFile** table for the particular file so it is set at one (1) (if applicable)	Use procedure in Section 14.8.3.3
26	Notify the Science Data Specialist to verify that the corresponding ESDT(s) has/have been properly installed (if applicable)	**contact Science Data Specialist**
27	Restart the job (if applicable)	Use procedure in Section 14.8.4.5
28	Run the Execution Manager in the debugger (if applicable)	Use procedure in Section 14.8.4.3

14.8.4.18 Handle a Failed Deallocate Function

If the deallocate function fails, the Postprocessing job turns red on **JobScape** or **TimeScape**.

Table 14.8-30 presents (in a condensed format) the steps required to handle a failed deallocate function. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Ensure that it is possible to connect to the necessary hosts and servers.

- For detailed instructions refer to the **Check Connections to Hosts/Servers** procedure (Section 14.8.1.1).

2 If hosts/servers are all “up,” check the log files for error messages.

- For detailed instructions refer to the **Check Log Files** procedure (Section 14.8.1.2).

Table 14.8-30. Handle a Failed Deallocate Function - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Check connections to hosts/servers	Use procedure in Section 14.8.1.1
2	Check log files (if applicable)	Use procedure in Section 14.8.1.2

14.8.5 Handle a Failed On-Demand Processing Request

An On-Demand Processing request can fail for any of the following reasons:

- Failures in Submitting the On-Demand Request from ODFRM.
- Failures in OdMgr getting the On-Demand Request to Run in AutoSys.
  - The Job Management Server is down.
  - The DPR is waiting in the AutoSys queue (never got released).
  - The DPR failed in Job Management due to Invalid DPR.
  - The DPR failed in OdMgr due to a failure in getting the PGE ID.
  - Subscription Server Problems.
  - The DPR failed in Job Management due to a JIL failure.
  - The DPR failed in Job Management due to an AutoSys ID failure.
  - The DPR failed to be received by Job Management Server.
  - AutoSys is not functional.
  - AutoSys is full.
- Failures in AutoSys of the On-Demand PGE(s).
- Failures in OdMgr Distribution of the On-Demand product.

When the DPR for an On-Demand Processing Request is in AutoSys, the jobs can fail for any of the same reasons that any other type of job might fail and might be restarted in the same manner as any other type of job (as described in preceding sections).

Perform the appropriate procedure(s) related to handling a failed on-demand processing request:

- **Check Connections to Hosts/Servers** (Section 14.8.1.1).
- **Check Log Files** (Section 14.8.1.2).
- **Respond to Hanging of the Processing System** (Section 14.8.2).
- **Check AutoSys Status** (Section 14.8.2.1).
- **Check the AutoSys Log** (Section 14.8.2.2).
- **Check for Database Deadlocks** (Section 14.8.2.3).
- **Check for Resource Locks in the PDPS Database** (Section 14.8.2.4).
- **Respond to Failure of Jobs to Start in AutoSys** (Section 14.8.3).
- **Check Job Management Server Status** (Section 14.8.3.1).

- **Check to Determine Whether the DPR Is Waiting in the AutoSys Queue** (Section 14.8.3.2).
- **Use ISQL to Check Database Tables** (Section 14.8.3.3).
- **Check to Determine Whether AutoSys Is Full** (Section 14.8.3.4).
- **Respond to a Condition Where a DPR Was Released But Failed Due to a JIL Failure** (Section 14.8.3.5).
- **Handle Subscription Server Problems** (Section 14.8.3.6).
- **Respond to a DPR That Was Released But Failed Due to an AutoSys ID Failure** (Section 14.8.3.7).
- **Respond to a DPR That Was Released But Failed Due to Invalid DPR** (Section 14.8.3.8).
- **Respond to a DPR That Was Released But Failed to Be Received by Job Management Server** (Section 14.8.3.9).
- **Respond to a Single DPS Job That Has Failed or Is Hanging** (Section 14.8.4).
- **Handle a Box Job that is Hanging in AutoSys** (Section 14.8.4.1).
- **Handle a Hanging Allocation Function** (Section 14.8.4.2).
- **Run Execution Management Outside of AutoSys** (Section 14.8.4.3).
- **Handle a Failed Allocation Function** (Section 14.8.4.4).
- **Force-Start a Job** (Section 14.8.4.5).
- **Respond to a Restart of a Job That Fails Although All Known Problems Have Been Corrected** (Section 14.8.4.6).
- **Handle a Hanging Staging Function** (Section 14.8.4.7).
  - Perform the **Handle a Hanging Allocation Function** procedure (Section 14.8.4.2).
- **Handle a Failed Staging Function** (Section 14.8.4.8)
- **Clean Up the DPS File Tables** (Section 14.8.4.9).
- **Handle a Failed Preprocessing Job** (Section 14.8.4.10)
- **Handle a Hanging Execution Job** (Section 14.8.4.11).
  - Perform the **Check AutoSys Status** procedure (Section 14.8.2.1).
- **Handle a Failed Execution Job** (Section 14.8.4.12)
  - Perform the **Check AutoSys Status** procedure (Section 14.8.2.1).
- **Respond to Execution Job and/or Postprocessing Job That Have (Has) Failed** (Section 14.8.4.13)
- **Respond to Execution Job That Has Failed and the DPR Has Gone into "Failed-PGE" Processing** (Section 14.8.4.14)
- **Handle a Failed Postprocessing Job** (Section 14.8.4.15).
- **Handle Failure of Both Execution and Postprocessing Jobs** (Section 14.8.4.16).
- **Handle a Failed Insertion Function** (Section 14.8.4.17).
- **Handle a Failed Deallocate Function** (Section 14.8.4.18).

- **Respond to a DPR that Failed in OdMgr because the PGE ID Could Not Be Found** (Section 14.8.5.1).

14.8.5.1 Respond to a DPR that Failed in OdMgr because the PGE ID Could Not Be Found

If a DPR failed in OdMgr because the PGE ID could not be found, the options selected on the ODFRM screen do not match any of the Profiles for the PGE associated with the selected input. The parameters selected on ODFRM for the product are passed to OdMgr and are used to select the appropriate PGE Profile. The selection of a PGE Profile fails if the parameters passed by ODFRM to OdMgr do not exactly match those in one of the profiles.

Table 14.8-31 presents (in a condensed format) the steps required to respond to a DPR that failed in OdMgr because the PGE ID could not be found. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 14.2.1).

2 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the Data Processing Subsystem log files (e.g., EcDpPrJobMgmt.ALOG, EcDpPrDeletionDebug.log).

3 At the command line prompt enter:

pg <file name>

- **<file name>** refers to the Data Processing Subsystem log file to be reviewed (e.g., OdMgr.ALOG).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **more**, **vi**, **view**) can be used to review the log file.

4 Review the ALOG file for the following type of error message:

Getting PGEID failed from PlOrderFactory

- For example:

  PID : 24890:MsgLink :0 meaningfulname :READFAILED
  Msg: Getting PGEID failed from PlOrderFactory Priority: 2 Time : 01/27/00 13:41:43
  PID : 24890:MsgLink :10 meaningfulname :PGELISTFAILED
  Msg: Getting PgeList from GlParameterList failed Priority: 2 Time : 01/27/00 13:41:54

PID : 24890:MsgLink :11 meaningfulname :CANTCREATEORDER
Msg: Unable to create a PlOrder Priority: 2 Time : 01/27/00 13:41:54

- The problem is most likely caused by not having the latest ODLs.
- To exit from **pg** at the **:** prompt enter:

  q

  – The command line prompt is displayed.

5 If an error message of the type shown in the previous step was present in the log, notify the SSI&T team of the problem.

- The SSI&T team should recopy the On Demand ODLs and re-register the PGEs.

Table 14.8-31. Respond to a DPR that Failed in OdMgr because the PGE ID Could Not Be Found - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server)	**single-click** or use procedure in Section 14.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
3	**pg <file name>**	**enter text, press Enter**
4	Review the log file for **"Getting PGEID failed from PlOrderFactory"** error message	**read text**
5	Notify the SSI&T team of the problem (if applicable)	**contact SSI&T team**